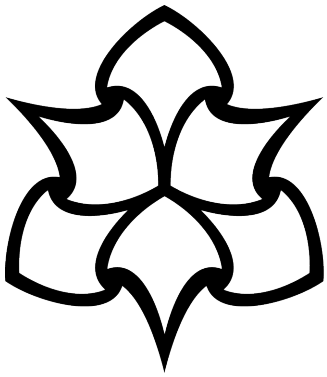

THE ROLE OF TACIT KNOWING IN ORGANIZATIONAL ROUTINES

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DECLARATION OF ORIGINALITY

This Research Project is an original and authentic piece of work by me. I have fully acknowledged and referenced all secondary resources. It has not been presented in whole or in part for assessment elsewhere. I have read the Examination Regulations, and I am fully aware of the potential consequences of any breach of them.

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ABSTRACT

This thesis advances an interpretivist perspective on the theory of tacit knowing and its role in organizational routines. Rather than merely acknowledging that tacit knowledge plays an important role in the context of capabilities and organizational routines, it is argued how it can be understood as emerging from human agency within the context of its use. Revisiting Polanyi's concept of tacit knowing, a theorization of this context is proposed in which the silent integrations of subsidiary particulars give shape and meaning to focal targets in the process of knowing in practice. These integrations remain tacit for the most part of human engagement in organizational routines. However, on occasions, they breakdown when routines do not produce the intended outcomes or when unanticipated events call for a change in the ways that actions are performed. It is in these moments that routine participants step back from their activities and reflect, discuss, and reassess their actions and thus may perform the same action in a different way or perform different actions. Therefore, any breakdown in the structure of tacit knowing, whether major or minor, will inevitably affect the routine actions that organizational participants engage in their daily activities.

Following this theoretical exploration, a methodological approach is described for researching tacit knowing in the context of organizational routines. Building on the premises of ethnographic research and embracing the view that routines are practices enacted by multiple individuals and manifested in sayings and doings of routine participants, the approach adopted in this thesis utilizes formal (and informal) interviews based on the Critical Incident Technique and company documentation with participants in two large public-owned organizations based in the UAE. Drawing on a dialogical theory of knowledge creation it is found that due to breakdowns routine participants fail to integrate their actions and understandings in three areas related to their (a) identities, roles, and responsibilities, (b) relations with other people, and (c) the use of artifacts (objects or tools). In attempting to restore sense of these failed integrations, routine participants provide evidence not only on how routines change (or not) but also on why they do.

KEYWORDS:

Tacit knowing, breakdowns, organizational routines, United Arab Emirates

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ACKNOWLEDGMENTS

This thesis is the tangible outcome of an intense intellectual and physical journey throughout which many things changed but also many things remained the same. What changed relates to my personal life and I am really thankful for the growing of my family with the addition of Mona, Reem and Fahim. To Sarah, my wife, I am most thankful for her unconditional support all these years. Also, a big thank you to my parents-in-law, Fahim and Mona Alqassimi, for their encouragement and support every time I needed it.

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CHAPTER *ONE*: INTRODUCTION TO RESEARCH

1.1 BACKGROUND AND INTRODUCTION TO RESEARCH

When I embarked on my studies in the UK, I came across many different modules, topics, and themes some of which I liked more than others. It was in my final Under-Graduate year that a lecture in the module of 'Corporate and Global Strategy' on *Knowledge and the Knowledge-based View of the Firm* would, eventually, change the course of my studies. In that particular lecture, the lecturer pointed out that in order understand why some firms outperform competitors in their respective industries, understanding resources and capabilities may not be sufficient as in both of these perspectives a key 'resource' for the firm is its ability or capability 'to know'. It was suggested then that it is not so much what companies know, but, more importantly, how they know what they know that distinguishes a good company to an excellent one. But perhaps more importantly, in that lecture, and later in the seminar that followed on from the lecture, there were some references to the continental philosopher Michael Polanyi and his apparent distinction between two forms of knowledge: explicit and tacit.

Explicit knowledge, was argued, is a form of codified, visible and articulated mode of understanding which is manifest in graphs, charts, notes, words, letters, Information Systems, discussion forums, and so on. It is the form of knowledge which demonstrates *what* the organization knows as it appears in front of us in an explicit manner. Tacit knowledge, on the other hand, is a more 'mystical' form of understanding; one that cannot be codified, remains hidden and inaccessible to others and is responsible, by and large, for *how* we know or, indeed, how organizations come to know. Such an insight had a profound impact on my understanding of why some organizations are particularly better

than others in gaining and sustaining competitive advantage in any given market. Such an insight, also, had a profound impact on my general understanding of knowledge and made me wonder – many times since then – how do I (whether I see myself as a researcher, colleague, professional, or human being) know what I know and how this process shapes the way I conduct myself in my everyday dealing with the world.

This critical experience, thus, was a turning point in my studies as I became increasingly interested in wanting to gain a deeper understanding about knowledge and particularly its tacit dimension. After successfully completing my MBA I wanted to pursue further my exploration into tacit knowledge in organizations and registered for a Ph.D. My supervisor was/is that lecturer who made me think more deeply about knowledge and its tacit dimension and, hence, slowly but steadily, begun to delve into the concept. I now have come to understand that many scholars and practitioners have paid considerable attention to the concept of knowledge and its possible distinctions between its so-called different types. Important writers in the area of knowledge such as Gilbert Ryle (1949) and Michael Polanyi (1962; 1966) have made the aforementioned crucial distinctions between knowledge that can be effectively represented using symbolic forms of representation, usually referring to such knowledge as explicit or codified and, other, more 'mystical' forms that defy such representation, verbalization or capture, namely, tacit aspects of knowledge. In organization and management studies field in particular, these distinctions have been manifested more famously in one study, that of Nonaka and Takeuchi's (1995) book *The Knowledge-Creating Company*. Also, in the area of Evolutionary Economics, the classic work of Nelson and Winter (1982), *An Evolutionary Theory of Economic Change*, has made extensive use of the concept of tacit knowledge

and its relation to organizational *routines*. These authors were responsible for reviving the interest in the earlier works (particularly) of Michael Polanyi to the point that tacit knowledge has come to be recognized as a central component of the learning organization (Easterby-Smith and Lyles, 2003; Senge, 1990) and value creation (Felin and Hesterly, 2007; Kogut and Zander 1992).

From reading these publications and with the direction and guidance of the supervisory team, I was gradually led to inquire too into the connection between tacit knowledge and organizational routines. While the literature on organizational routines acknowledges that tacit knowing constitutes its foundational premise (Parmigiani and Howard-Grenville, 2011; Pentland, et al 2012), there has been limited research on the actual role of tacit knowing and its impact on organizational routines. The work of Nelson and Winter (1982) has been instrumental in making an explicit connection between routines and the tacit. For them, routines are repositories of tacit knowledge which is preserved within the firm by the everyday practicing of these routines. Early literature viewed routines as stable entities that are stored in an organization's repertoire as 'black boxes' with change being a matter of recombining and selecting them (Nelson and Winter 1982). However, more recent work took account of the concrete actions as a central component of routines and attempted to explain how routines are responsible for both stability and change in organizational settings (Feldman and Pentland 2003; Howard-Grenville 2005). This recent take on routines emphasizes a recursive pattern between what routine participants actually do when enacting routines (performative aspect) and the rules, concepts, and principles that guide them in doing so (ostensive aspect). These accounts provide us with a rich view of how routines evolve continuously as organizational participants adapt and

adjust their performances to ongoing circumstances while maintaining selected adaptations within the overall structure/concept of the routine (i.e. its ostensive aspect). What they do not provide us with, however, is *an explanation of the actual role of tacit knowing in the process of changing or adapting routines to ongoing circumstances*.

The concept of 'tacit knowledge' has played a particularly significant role in many areas of academic inquiry. Since Michael Polanyi published his two influential books, *Personal Knowledge* (1962) and *The Tacit Dimension* (1966), academic inquiry considered the concept in many different areas that include music creativity (Bowman, 1982), academic writing (Boice 1995, Gerholm, 1990), professional education (Eraut, 2000; Stenberg and Horvath, 1999), accounting (Tan and Libby, 1997), nursing (Meerabeau, 2006), and economic geography (Amin, 1998; Gertler, 2003). The concept of tacit knowledge has also witnessed a substantial upsurge in organization and management studies literatures, particularly in the mid-1990's, with academic inquiry investigating its links with organizational performance (Harlow, 2008; Kogut and Zander, 1992; Pathirage et al, 2007), competitive advantage (Berman et al, 2002; Boisot, 1998; Spender, 1996b), innovation (Leonard and Sensiper, 1998; Von Krogh et al, 2000), decision making (Brochmann and Anthony, 2002; Forbes and Milliken, 1999) and learning in organizations (Argyris and Schon, 1978; Lam, 2000; Nicolini et al, 2003).

However, a number of authors [e.g. Gourlay (2006a; b), Tsoukas (2003; 2011), Oguz and Sengun (2011)] have suggested that the concept of tacit knowledge is largely under-specified and carries a myriad of meanings. It has been pointed out that we still do not understand tacit knowledge adequately, that it resists operationalization, and that much of the discussion around it leads towards mystification (Spender, 1996a; Leonard and

Sensiper, 1998; Ambrosini and Bowman, 2001; Oguz and Sengun, 2011). These problems reveal several antinomies in relation to the concept. First, a number of authors regard tacit knowledge as personal or private endeavor which should be treated only at an individual level (Ambrosini and Bowman, 2001; Boiral, 2002). Other authors treat it at a collective or organizational level by linking it to resources and capabilities (Nelson and Winter, 1982; Spender, 1996a; Leonard and Sensiper, 1998). Others yet, claim that tacit knowledge is manifested in the forms of life of a group, at a collective level (Collins 2001a, b; 2010; Ribeiro and Collins, 2007, Hecker, 2012). Nevertheless, there is an agreement that tacit knowledge is acquired through an individual's direct experience and engagement in everyday activities and tasks (see for instance Nonaka, 1994; Nonaka and Takeuchi, 1995, amongst others).

Since the work of Nelson and Winter (1982), a number of authors have argued that socially complex tacit knowledge that is diffused in organizational settings can constitute a valuable intangible resource which, if it is appropriately managed, can be a source of competitive advantage (Barney, 1991; Kogut and Zander 1992; Teece et al 1997). The concept of routines – and its core aspect, tacit knowledge – have given credence to theories of capabilities (Eisenhardt and Martin 2000; Helfat et al 2007) and the distinction made between operational and dynamic capabilities (Helfat et al 2007). The former is characterized by processes in steady state whereas the latter is found in processes which can contribute to change in organizational settings. More recently, nevertheless, authors have started engaging more closely with the concept of organizational routines which is viewed as comprising of patterns of interdependent activities performed by multiple actors by building on their tacit knowing (Parmigiani and Howard-Grenville 2011).

Routines have been equated to habits and habits, by definition, connote stability and automatic action (Turner and Cacciatori, 2016). Building on this conception, early scholarship viewed routines as thing-like, self-contained, and stable entities that are responsible for stability in organizational contexts. More recently, however, routines are seen as dynamic processes (Feldman, et al 2016) or practices (Feldman and Orlikowski, 2011) which necessarily embody action in an attempt to accomplish particular tasks, thus providing the foundation for change to take place. This paradox between stability and change in organizational routines is what Cohen (2007: 781) referred to as the 'paradox of the (n)ever changing word': although each routine performance is different, by virtue of being a routine, it is, at the same time, the 'same'. This has led many scholars (Dittrich, et al 2016; Feldman, 2000; Feldman and Pentland, 2003; Feldman, et al 2016) to ask a simple question: How do routines change (or fail to do so) in organizational contexts?

The answer to this question may lie in the way that tacit knowing is theorized and researched in organizational contexts. How an individual knows and how this knowledge is exhibited in the actions the individual engages in organizations is the key process of learning. A common theme in the literature on tacit knowledge in organizations is the contribution of people (staff) in the creation, development and potential transfer of such knowledge. Venkitachalam and Busch (2012), for example, argue that the connectivity of organizational members to other staff constitute a considerable component of organizational know-how as individuals should not be seen as silos of knowledge. Each individual in an organization is connected to other individuals and together they perform a number of routines which keep the organization going. However, routine action in organizations is not always possible. There are moments that routines *breakdown*

because existing routines do not produce the intended outcomes or, as a result of existing routines, new problems occur that need to be solved in order for activity to move forward. Moreover, routine outcomes can produce new organizational resources that offer new opportunities for the performing actors (Feldman 2000, 2003).

Therefore, in this thesis I want to explore more closely the role of tacit knowing in the context of organizational routines. If tacit knowing is at the heart of routine action, and if routines are characterized by both stability and change, *how* and *why* routines change? What is the process (or mechanism) that enables routines to change and, at the same time, maintain their stability?

1.2 WHY STUDYING TACIT KNOWLEDGE IN THE CONTEXT OF ORGANIZATIONAL ROUTINES?

In this thesis I want to explore more deeply the connection between tacit knowing and organizational routines and the impact the former has on the latter (or *vice versa*). In this section, therefore, I sketch out in more detail why studying and understanding tacit

knowing is of particular significance if we are to get closer in understanding the oscillation between stability and change in organizational routines.

As the concept of tacit knowing was introduced in Polanyi's (1962; 1966) seminal publications, it is important to briefly describe what constitutes 'tacit' in his writings. Polanyi's 'knowing' (rather than knowledge) consists of three complementary but mutually exclusive forms of comprehension: *subsidiary particulars*, a *focal target*, and a *person* (a subject) who links the two together. For Polanyi, our personal knowledge depends on the skill of integrating subsidiary particulars into a 'whole' to crate meaning. Knowledge is a personal endeavor; a continuous process of integrating subsidiary particulars into a whole. This 'whole' is what Polanyi refers to as 'meaning'. In other words, to make sense of our experiences we necessarily rely on some parts of it subsidiarily in order to attend to our main objective focally. We comprehend something as a 'whole' (focally) by *tacitly* integrating certain particulars, which are known to the individual in a subsidiary sense. Polanyi used several examples (reading a map, riding a bicycle, doing scientific work) to underline the personal character of *all* knowledge. He insisted that the act of knowing depends, fundamentally, on personal participation (action) in its generation: the individual *acts* to integrate the subsidiary particulars so to *know* something focally.

In organization and management studies literature, the concept of knowledge was more systematically addressed in a special issue of the *Strategic Management Journal* – the first of its kind – on knowledge. Spender and Grant (1996) suggested in that issue that interest in knowledge stems from the important works in the field by Penrose (1959), Heyek (1946), Nelson and Winter (1982) and Polanyi (1962; 1966). Theory of knowledge in organizations has given rise, as Chiva and Alegre (2005) suggest, to a number of

conceptual frameworks/models including, *inter alia*, the knowledge-based view of the firm, organizational knowledge, knowledge management, and knowledge creation, mainly due to the contradictory and often confusing typologies used to understand the concept (Brown and Duguid, 2001). Easterby-Smith and Lyles (2003) argued that it was the major, foundational work of Nelson and Winter (1982) which brought forward tacit knowing as the basis for individual and organizational competence. Other important works emerged in the early 1990s with the two Special Issues of the *Journal of Management Studies* on 'knowledge work' (Alvesson, 1993; Starbuck, 1992, 1993), and Blackler's (1995) elaboration of the six different forms of organizational knowing (Easterby-Smith and Lyles, 2003:11).

Despite the apparent importance of the concept of knowledge and, in particular, its tacit dimension in many diverse areas of academic inquiry, there still remain various gaps that the literature on tacit knowledge has yet to fill. For example, Oguz and Sengun (2011: 445) have suggested that the tacit dimension of knowledge is so 'mystical' that has become a 'buzzword' and a 'slippery' notion. This is a reason why a number of authors have attempted to re-conceptualize tacit knowledge in order to achieve better clarity (Tsoukas, 2003, 2011; Gourlay, 2006a, b; Gueltenberg and Helting, 2007; Ribeiro and Collins, 2007). A central premise of these studies is that tacit knowledge, as it is currently used in organization and management studies, offers a limited understanding of the process of *knowing* that Michael Polanyi had in mind. The continuous upsurge in writings and publications on the topic demonstrate that there still remains some ground to be covered in achieving conceptual clarity as deeply-couched problems still persist. These include the problematic division between tacit and explicit knowledge, the problem of

articulating tacit into explicit knowledge, and the problem of operationalizing the tacit to make it available for research and analysis.

Despite the apparent importance of tacit knowledge in organization and management studies, a search in the literature reveals only a limited number of empirical studies dealing directly with the concept. Instead, there is a plethora of studies that deal with knowledge transfer [in many different areas (see, for example, Cavusgil et al 2003; Giannakis 2008; Joia and Lemos 2010; Mowery et al 1996; Panahi et al 2013; Ryan and O'Connor 2013)], the interplay between tacit and explicit knowledge (Bhardwaj and Monin 2006; Kothari et al 2012), and the role of tacit (and explicit) knowledge in different research areas including HRM, Marketing, Leadership, Knowledge Management, Project Management, and so on (Boiral 2002; du Plessis 2007; Fong 2003; Hislop 2003).

Arguably, however, the most frequently-cited and impactful work in the field of organizational knowledge (especially related to the tacit dimension) have been the publications by Nonaka (1991) and more so, Nonaka and Takeuchi's (1995) highly respected book, *The Knowledge Creating Company.* Nonaka's work has made a significant contribution to the field of organizational knowledge, learning, and innovation by focusing on how firms gain competitive advantage in the market place through the timely application of explicit (or codified) knowledge and tacit (or personal) knowledge. The foundation of that work centers on the distinction between tacit and explicit knowledge and the process of knowledge conversion, that is, how knowledge in organizations is 'captured' and 'converted' or 'articulated' from tacit into explicit and again into tacit.

However, although the model of knowledge creation has been particularly influential in the field of organization studies, a number of researchers have started to critically engage with it and problematize almost every level of Nonaka and Takeuchi's (1995) arguments, including its theoretical foundations (and Nonaka and Takeuchi's reading of Polanyi), its methodological rigor, and the implications or applications of their model in the wider context of organization and management studies and real-life organizational settings.

One of the major critiques of Nonaka's work has been Professor Haridimos Tsoukas (and colleagues) who has provided extensive arguments that elaborate an understanding of tacit knowledge more closely to what Polanyi meant to project. Tsoukas' earlier works, for example, suggest that although a number of studies have agreed that knowledge is important in organizations (whether it is viewed as a resource or a capability), we need to shift our attention towards how knowledge is *actually* created in organizational settings (Tsoukas, 1996; 2003; Tsoukas and Mylonopoulos, 2004). In so doing, a more robust knowledge-based perspective can emerge that could provide more convincing answers in relation to how competitive advantage can be achieved and maintained over time.

Tsoukas' later works (Tsoukas, 2005; 2011; Tsoukas and Vladimirou, 2001) have concentrated more solely on knowledge creation in organizations with emphasis placed on clarifying Polanyi's (1962; 1966) tacit dimension of knowledge which, according to Tsoukas, have been greatly misunderstood. More recent works by Tsoukas and colleagues are geared towards offering ways to *researching* such knowledge in organizations by paying more attention to breakdowns, accidents and dialogue that are seen as the foundations for understanding the concept more fully (Baralou and Tsoukas, 2015; Tsoukas, 2011; Shotter and Tsoukas, 2014).

A common theme in the literature on tacit knowing is the acknowledgement that researching such knowledge in organizations has not been advancing as much as it could have been. This is mainly because the major problem of studies that have attempted to operationalize the concept rely on inappropriate methodological premises (Tsoukas 2011). Tacit knowledge, by definition, is hidden and inaccessible to others. The word 'tacit' comes from the Latin word '*tacitum*' which means the 'unvoiced, silent, or wordless' (Oxford English Dictionary). It is for this reason that a number of researchers acknowledged that tacit knowledge has an *ineffable* quality (Tsoukas, 2003; Tsoukas and Vladimirou, 2001) that is hard to formalize or communicate with any precision (Nonaka, 1994; Nonaka and Takeuchi, 1995, Spender, 1996). Researchers of tacit knowledge in organizations may find it difficult to inquire into something which by definition is hidden.

Tsoukas (2003; 2011), however, has insisted that the hidden quality of tacit knowledge does not imply that we should stop researching it. Rather, we should start *discussing* individual skilled performances in which we are involved as, in so doing we can *draw attention to how we draw each other's attention to things*. This means that we need to engage in conversations and discussions with organizational actors with a view to identifying how their skilled performance is manifested in organizational practices.

The study of tacit knowledge has given credence to a number of influential theories and frameworks in organization and management studies. The Resource-based View of the firm (Barney, 1992; Barney et al 2001; 2011), for example, argues that firms possessing intangible resources that are valuable, rare, inimitable, and non-substituted can gain and sustain competitive advantage in the marketplace. In this view, tacit knowledge represents the most strategically significant resource possessed by a firm and the ways

that managers (or firms) arrange and re-arrange these resources in order to create advantage and increase value, underpin the capability of the manager to make strategic decisions (Teece, et al 1997; Tsoukas and Mylonopoulos, 2004).

A related field of research that has tacit knowledge in its core assumptions is the area of organizational routines. Defined as repetitive, recognizable patterns of interdependent actions that involve multiple actors (Dionysiou and Tsoukas, 2013: 181; Feldman and Pentland, 2003: 96; Parmigiani and Howard-Grenville, 2011: 417), organizational routines have long been regarded as the primary means through which organizations accomplish much of what they do (Cyert and March, 1963; March and Simon, 1958; Nelson and Winter, 1982).

Early work on routines goes as far back as March and Simon's (1958) notion of 'performance programs', Cyert and March's (1963) 'standard operating procedures', and Nelson and Winter's (1982) metaphor of routines as 'genes' or an organization's DNA. This early work approached routines as "collective, recurrent entities or 'black boxes'" (Salvato and Rerup, 2010: 2) and, to a certain extent, accounted for stability in organizations (Pentland and Feldman, 2005) and a focus on the effects of routines on higher-level phenomena that include organizational performance, learning, and capabilities (Parmigiani and Howard-Grenville, 2011; Salvato and Rerup, 2010).

However, this early work on routines has been criticized for ignoring the internal structure and dynamics of routines (Feldman, 2016; Parmigiani and Howard-Grenville, 2011; Salvato and Rerup, 2010). Scholars have, therefore, turned their attention to a more performative view of routines (Feldman, 2000; Feldman and Pentland, 2003; Parmigiani and Howard-Grenville, 2011) with the goal of overcoming the difficulties and ambiguities

of the ‘black box’ view by paying increased attention to the processes that take place inside the routines themselves. Challenging the traditional view of routines, scholars have shown that routines are ‘effortful accomplishments’ (Pentland and Rueter, 1994: 488), that is, every performance of a routine requires effort as actors choose their actions in light of the specific situation and their experience of earlier iterations of the routine (Feldman, 2000; Howard-Grenville, 2005). By focusing more explicitly on human action (agency), this recent perspective has paved the way for a more micro-oriented account of routines aiming to capture their generative nature, namely, the potential variability manifested when routines are enacted in particular contexts over time (Dionysiou and Tsoukas, 2013).

The recent work on routines conceptualizes them as the interplay between a performative aspect, that is, the specific actions through which the routine is performed, and an ostensive aspect, namely, the abstract, generalized pattern that actors distinguish across performances (Feldman and Pentland, 2003; Parmigiani and Howard-Grenville, 2011). These two aspects of routines, the performative and the ostensive, represent the two sides of what Cohen (2007: 781) referred to as “the paradox of the (n)ever changing world”: while the concrete actions differ in every re-enactment of the routine, the actors may still see a ‘pattern-in-variety’ (Cohen, 2007: 782) and therefore perceive these actions as part of the same routine.

The distinction between ostensive and performative aspects of routines has been instrumental in allowing researchers to discern two types of routine change (Howard-Grenville, 2005): the first is related to flexible adaptation of individual performances, that is, the change in temporary deviations from the abstract, general pattern. The second

type is related to changes in the pattern across several performances. These two types of change can be understood as an evolutionary process of variation and selective retention (Feldman and Pentland, 2003), which implies that adaptations in the performative aspect of routines constitute variations that are selectively retained in the ostensive (the abstract and generalized) aspect which is modified as a result.

While these recent insights on organizational routines have been immensely useful in correcting the previous 'black-box' approach, our understanding of routines still remains slow (Cohen, 2007: 774; Dionysiou and Tsoukas, 2013: 182; Pentland and Feldman, 2005: 794). This may be due to the rather limited attention to the concept of tacit knowing, and its role in stabilization and/or change of routines in organizational contexts. Since tacit knowing is the act of integrating subsidiary particulars and focal targets by a person engaging in everyday (organizational) activities, an understanding of this process may pave the way towards strengthening our view on how individual participants interrelate their individual actions to form "repetitive, recognized patterns of action" (Feldman and Pentland, 2003: 103). Furthermore, to the extent that routines mainly change due to adaptations of individual performances enacting routines, the process by which this is done has not been explored. Put simply, the questions of "what is the role of tacit knowing in the context or organizational routines?" and "what is the process (or mechanism) that enables routines to change and, at the same time, maintain their stability?" deserve more attention.

In the next section I sketch out the thesis aims and the contributions that are expected to be achieved.

1.3 RESEARCH AIMS AND EXPECTED CONTRIBUTIONS

My purpose in this thesis is to extend the performative view of routines by exploring the process of tacit knowing in underpinning routine stability and change as a collective phenomenon. Drawing more closely on the work of Polanyi (1962; 1966) on tacit knowing and Tsoukas (and colleagues) work on how such knowing may be researched in organizational contexts (Baralou and Tsoukas, 2015; Tsoukas, 2011; Shotter and Tsoukas, 2014), the concept of 'breakdowns' is introduced to explain that changes in the structure of tacit knowing (the integration of subsidiary particulars and focal targets) are largely responsible for adapting or, more fundamentally, changing organizational

routines. Responding to recent calls to shift the attention on ethnographic methods for studying routines (Feldman 2016), the thesis advances a practice-oriented perspective (Feldman and Orlikowski, 2011) that focuses on the routines and actions that constitute them (D'Adderio, 2014; Turner and Rindova, 2012; Howard-Grenville, 2005) by building on dialogical interactions (Tsoukas, 2009) of participants engaging in skilful action.

Consistent with recent work in the field of organizational routines (Dionysiou and Tsoukas, 2013; Dittrich et al, 2016; Salvato and Vassolo, 2018), emphasis is placed on the 'reflective talk' of participants engaging in organizational routines and their reflections on how and why routines have changed. Drawing on an ethnographic study of two public organizations located in the UAE, it will be shown that when tacit knowing is disrupted due to a breakdown (major or minor) (Sandberg and Tsoukas, 2011) in the performance of the routine, participants' experiences become an issue of and for reflection and attention as their experience of performing a routine action is disturbed (in a major or less major way).

Such a disruption of routine action is important because breakdowns in the context of performing a routine can be viewed as the triggering mechanism for routine action to be adapted or changed. In this way, the 'lived experiences' of those who work in organizational settings and the researcher who investigates these conditions can generate discussions and conversations that take place not only during the performance but also retrospectively, i.e. after the performance has transpired. This is particularly important as organizational participants can *discuss* their engagement in organizational routines by reflecting on how and why they have acted in the way they have in particular circumstances. It is only when participants step back from the actions and engage in

dialogical interactions with other participants engaging in the same routine that talking about the routine may provide avenues for noticing "certain important features which had hitherto escaped our attention and can now be seen in a new context" (Tsoukas, 2011: 472). Consequently, participants engaging in routines are able to relate to their circumstances in novel ways and, therefore, 'see' new ways of performing and moving a task forward.

Therefore, the questions I want to address in this thesis are:

(a) What is tacit knowing and why is it important in organizational settings?

(b) What is the role of tacit knowing in the context of organizational routines?

(c) How can tacit knowing be empirically investigated in the context of organizational routines?

(d) How and why tacit knowing affects stability and change in organizational routines?

(e) Why such a research is important in organizational settings based in the UAE?

The expected contributions of this thesis are envisaged to be related to three areas of inquiry, namely, theoretical, methodological and practical:

- In terms of theoretical contributions, the thesis would advance a more robust connection between two seemingly separated literatures: tacit knowing and organizational routines. In terms of tacit knowing, the thesis examines more closely the concept and its structure as it has been exemplified in the works of Polanyi (1962; 1966) and Tsoukas (and colleagues) (Tsoukas, 2003; 2005; 2011; Tsoukas and Vladimirou, 2011) by placing emphasis on the skilful integrations of subsidiary particulars and focal targets by a person who links the two together when carrying out any task. These integrations, however, are not always successful and thus

breakdowns occur that potentially and actually disrupt the flow of skilful actions. In these moments, the person becomes reflective of the action and may alter the action itself in order to carry on the performance forward. Such an understanding has implications on how routines are carried out in organizational contexts as the foundational question of any theory of organizational routines is to explain *how routines change* (Dittrich et al, 2016; Feldman, et al 2016; Pentland, et al 2012) or fail to do so over time. The thesis, moreover, goes one step further: since action is at the centre of tacit knowing and routines comprise of interdependent patterns of actors performances (Parmigiani and Howard-Grenville, 2011), it follows that any breakdown in the structure of the former will inevitably affect the outcome of the latter. Thus, the thesis sheds light on the question of *why routines change* (Dittrich, et al 2016: 17; Howard-Grenville, 2005) by placing emphasis on the role of breakdowns as the triggering mechanism that enables (or not) routines to be adapted and/or changed.

- In terms of methodological contributions, the thesis advances an approach to researching, identifying, and analyzing tacit knowing in the context of organizational routines by taking on the suggestions in the literature for more ethnographic approaches (Baralou and Tsoukas, 2015; Cunliffe, 2011; Feldman, 2016; Kaplan and Orlikowski, 2013) to the study of knowledge *and* routines. In so doing, emphasis is placed on breakdowns and dialogue as these are seen as foundational aspects for understanding and researching the tacit, which by definition is hidden and inaccessible to observation alone (Baralou and Tsoukas, 2015; Sandberg and Tsoukas, 2011; Shotter and Tsoukas, 2014). In line with

recent developments in the field of organizational routines the thesis advances a 'practice-oriented' perspective which embraces the view of 'routines-as-practices' (Feldman and Orlikowski, 2011: 1245; Parmigiani and Howard-Grenville, 2011; Zbaracki and Bergen, 2010) that are enacted by individuals in socially organized contexts and are manifested in 'sayings' and 'doings' of routine participants. Taking such a perspective seriously means that observing what actors do when performing routines (the 'doings' of participants) is only one aspect and should go hand-in-hand with participants' reflective accounts (the 'sayings') of why things have been done in one way rather than another. Therefore, the novelty of the contribution of this thesis is the focus on breakdowns in participants' experiences – as these are perceived by them – rather than the routines themselves. Utilizing such an inductive methodology with a focus on narratives and unstructured interviews based on critical incidents (i.e. salient moments in a participants organizational experience as these are perceived by the participants themselves) has the potential to surface participants' tacit understandings and thus make them available for research and analysis in the context of routines.

- In terms of practical contributions, the thesis provides an account of the reasons as to why and how routines change and how managers should understand such change in their respective organizations. Focusing on breakdowns as an integral and necessary part of organizational activity, management in organizations should embrace such moments rather than seeing them as challenges that need to be dealt with. Moments of breakdown are the norm in organizational activity, not the exception and therefore managerial attention should put more firmly on

encouraging productive dialogue among organizational participants with a view to facilitate (and, perhaps, stimulate) reflective and creative individuals that could mindfully envision new ways of acting and doing things (Salvato and Vassolo, 2018).

1.4 THESIS STRUCTURE AND CONTENT

In order to articulate the arguments and explore the research questions in detail, the thesis is presented in seven Chapters. This Chapter (Chapter *One*) lays out the basic premise and rationale behind this study and outlines the approach and content of the thesis with its main research questions, aims, and expected contributions.

Chapter *Two* provides an overview of the literature on knowledge and its tacit component in particular within organization and management studies literature. Despite the substantial number of studies associated with the concept of tacit knowing, the literature identifies convergent themes as well as important antinomies. The exemplary study of Nonaka and his colleagues on tacit knowledge although remains one of the most significant in the field, it has also added ambiguity that subsequent studies have not, to a

large extend, been able to address. Particularly in the field of capabilities and routines, the concept of tacit knowledge plays a central role in that if properly managed it can lead to competitive advantage and superior performance. However, how and why exactly this is done still remains underexplored. It is argued in that Chapter that we need to better understand the tacit if we are to come closer in answering these significant questions that can illuminate both theoretical and methodological approaches to the study of tacit knowing.

For this reason, Chapter *Thee* delves deeper into the concept of tacit knowing in an attempt to clarify and clear up conceptual ambiguities found in relation to the tacit. Following from suggestions expressed in Tsoukas' work, Michael Polanyi's work is revisited in an attempt to understand more fully how tacit knowing is conceptualized and understood. Polanyi argues that all knowing consists of the integrations of subsidiary and tacitly held particulars into a focal and articulate whole. Crucially for Polanyi, these integrations are silent or ineffable to a person who is attempting to accomplish a task but, the outcomes they contribute to, are not. Most of the time we are absorbed in the actions we perform and thus subsidiary awareness is hidden in the background of inarticulate experiences. However, when we are faced with a challenging or difficult situation that disturbs our tacit expectations, our subsidiary awareness becomes the focal point of attention, deliberation, and reflection. Thus, new knowledge comes about when our previously held tacit understandings (our subsidiary particulars) are re-punctuated (articulated) through disruptions, accidents and surprises.

These insights are significant for our understanding of tacit knowing and its important role in organizational routines as they too comprise of a similar structure to that of tacit

knowing: the ostensive aspect (the abstract, generalized idea of what the routine should entail) and the performative aspect (the concrete actions that give shape to the routine itself). Any breakdown of the tacit can potentially disrupt (to a more or less major way) the performance of a routine and hence provide the space for reflection and review of alternative ways to move the performance forward. It is argued in the Chapter that this takes place through dialogical exchanges and discussions among routine participants thus enabling novel features to be uncovered that can contribute to changing organizational routines.

Chapter *Four* discusses the methodological approach and research design that the thesis has adopted. The Chapter aims at understanding how can tacit knowing be empirically investigated in the context of organizational routines. Building on the novel understanding of the tacit and its role in routines and following recent research approaches in the field of organization and management studies, it is argued that the researcher should pay attention not only to the actions of routine participants but also to the ways they discuss routine performances and understandings in organizational settings. To achieve this, the Chapter describes and explains a methodological approach that is based on subjectivist ontology, interpretivist epistemology, and methodology that is ethnographic, inductive, and dialogic in nature and methods of inquiry that include loosely structured interviews (based on the Critical Incident Technique) and company documentation to elicit the processes by which routine participants act and understand such acting in organizational contexts. Data has been collected from two public-owned companies based in UAE and the Chapter offers justifications and explanations related to the overall methodology, choice of methods, and data analysis.

Chapter *Five* presents a detailed description of the analysis of data and the major findings. The aim of this Chapter is to understand how breakdowns in practical engagement of participants in their daily routines altered their understanding of the practices involved in enacting these routines. The analysis centers on four routines, i.e. *Hiring and Promotions, Rebranding*, *HR System Implementation*, and *Customer Services* that participants engaged in and discussed during the interviews. The findings indicate that the breakdown of a particular routine is connected to three areas that potentially reveal how changes in the structure of tacit knowing impact routines. This happens when participants fail to integrate their actions in the following areas: (a) identities, roles and responsibilities; (b) the use of tools, objects or other artefacts; and (c) relationships with other participants.

Chapter *Six* provides a thorough discussion of the thesis findings. It is discussed that breakdowns play a crucial and often catalytic role in changing routines as they bring forward a disturbance in the ways that organizational participants integrate and re-integrate their subsidiary particulars in order to attend to focal targets. Failure of these integrations deriving from a breakdown in practical engagement of participants in organizational contexts affect the ways that routines are enacted in a more or less significant way. Depending on the extent and severity of the breakdown, participants are forced to critically reflect on these novel experiences before they are able to re-align their tacit understandings in order to perform the routine effectively.

Finally, Chapter *Seven* provides a set of conclusions and a summary of the main theoretical, methodological, empirical, and practical contributions achieved in the thesis. It also sketches out the limitations of the current study along with an outline of some possible directions for future research.

CHAPTER *TWO*: THE REVIEW OF THE LITERATURE

2.1 INTRODUCTION

The first Chapter (Chapter *One*) provided an overview of the context, arguments, theoretical and methodological approaches that would be guiding this thesis. This Chapter (Chapter *Two*) provides an overview of the literature on knowledge in general and tacit knowledge in particular, in organization and management studies. Despite the exponential increase in the number of studies associated with tacit knowledge across a very broad spectrum of academic inquiry, the literature identifies common themes as well as important antinomies. It is widely accepted in the literature that tacit knowing (and its associated synonyms, e.g. know-how, implicit knowledge, abilities, skills, etc.) is important in organizations. However, there are still ambiguities around whether such knowledge is acquired through direct experience; whether such acquisition is a socially complex process; whether it contributes to competitive advantage; whether it is the source

of all knowing and the contributor of creativity and innovation; whether it can be converted into explicit; and, whether it is an individual or both an individual and collective phenomenon.

To ensure that these ambiguities are minimized, this Chapter reviews two main areas of inquiry in which tacit knowledge (or knowing) is identified in the literature as being particularly important, namely, tacit knowledge and its relation to knowledge management and its relation to organizational routines. In reviewing the literature on knowledge management, one has to appreciate the role of the works of Nonaka (and his colleagues) whose creation and development of the *SECI* model of knowledge conversion has attempted to explain how the recursive conversion of tacit into explicit knowledge can lead firms to competitive advantages. Although Nonaka's theory has been particularly influential in the area of knowledge management and innovation, a number of critiques (e.g. Gueldenberg and Helting 2007; Gourlay 2006a, b; Ribeiro and Collins 2007; Tsoukas 2003, 2011; Tsoukas and Vladimirou 2001) have asserted that it should be treated with caution because of its treatment of articulation and conversion of tacit into explicit knowledge and Nonaka's reading and understanding of Polanyi's original work on the tacit. Despite these criticisms, the insights provided by Nonaka's work have influenced the ways in which scholars understand and theorize knowledge and learning in organizational settings and paved the way for subsequent work in the field.

The concept of tacit knowledge has also been at the center of one of the most influential theories in organization and management studies, namely, the Resource-based Theory of the firm (Barney 1991; Barney et al 2001, 2011) and has provided the basis on which the concept of 'dynamic capabilities' (Teece, 2010; Teece *et al*, 1997; Zollo and Winter,

2002) has been built upon. The main premise on which the capabilities approach departs from that of the Resource-based Theory is that a firm's competitive advantage is dependent upon its ability to create and renew its knowledge base by altering or re-configuring internal and external competencies in rapidly changing environments. On the one hand, from a more macro/organizational level, capabilities are conceptualized as 'higher-level routines' (Zollo and Winter, 2002) or 'decision-making rules' (Eisenhardt and Martin, 2000) and this makes it difficult to identify what makes them 'dynamic', i.e. contribute to innovative change. On the other hand, from a more micro/individual level, capabilities are conceptualized as 'decision-making activities' based on the skills of one or a few top managers (Helfat and Peteraf, 2015) and this makes it difficult to understand how firms create systematic and reliable processes of resource configuration (Salvato and Vassolo, 2018).

Thus, current interpretations of 'dynamic capabilities' make them paradoxical entities (Peteraf et al 2013) that involve, simultaneously, stability and change (Feldman and Peteraf 2003). This paradox has implications in practice because organizations need both the reliability of routines *and* the creativity of individuals to systematically reconfigure resources to adapt to change (Helfat, et al 2007). To account for this paradox, researchers have attempted to concentrate on routines and view them more closely by focusing on their 'dynamics'. At the core of this research approach lays the concept of tacit knowing since routines comprise of patterns of interdependent activities performed by multiple actors (Parmigiani and Howard-Grenville, 2011) and action is at the center of organizational knowledge and learning. In addition, routines are 'dynamic' because the action patterns observed in their performance are temporal and can change from one

performance to the next. The two levels (or aspects) of routines, namely, the ostensive (what the routine should be) and the performative (how the routine is actually performed) have been analogous with the difference between outcomes and processes. When people perform certain actions in routines they become reflective of the outcomes they produce and thus performing the same routine in the future may not be exactly the same. Thus, reflection and mindful action take center stage in routine performance.

This Chapter unfolds as follows: In the next section (Section 2.2.) an overview of the literature on tacit knowledge is presented. Following discussion of this, Section 2.3. provides a discussion of the relevance of tacit knowledge in organization and management studies by concentrating on two areas: knowledge management and organizational routines. The Chapter concludes by offering a summary of the main points (Section 2.4).

2.2 A SEARCH ON TACIT KNOWLEDGE

Research on tacit knowledge in organization and management studies literature has been significantly increased after 1995. I have conducted two literature searches, the first in 2013 and the second in 2016. The reason for this was to identify the number of studies dealing with the concept of tacit knowledge, not only in organization and management studies, but at a broader spectrum of academic inquiry. It is true that tacit knowledge appears across many different areas of academic and professional inquiry that range from sports, film production, and engineering, to medicine, education, and psychotherapy. Table 2.1.provides an overview of the differences in my two different chronological searches in terms of the number of studies found related to tacit knowledge.

TABLE 2.1 STUDIES ON TACIT KNOWLEDGE IN 2013 AND 2016

Year	*Business Source Premier* (on title)	*Business Source Premier* (subject terms)	*Business Source Premier* (in abstract)	Google Scholar
2016	864	1,459	4,796	361,000
2013	188	515	1,111	228,000

This substantial increase in studies on tacit knowledge within the last three years demonstrates the increasing interest that academics and practitioners place on the concept. This increase also signifies that despite unresolved areas on the tacit dimension of knowledge that include both its clarity and the difficulties associated with researching such knowledge in organizations, most studies appear to take for granted the distinction between tacit and explicit knowledge (where the former is defined as 'hard to codify' and the later as 'codified' knowledge). Another implication that this apparent increase in studies poses is that it becomes harder for a researcher on tacit knowledge to review all the studies associated with the concept.

However, in this review I concentrate on the literature on organization and management studies (broadly defined) in an attempt to identify the key studies, authors, and areas of interest that have a bearing on our understanding of the concept to date. Besides reading the key texts (e.g. Polanyi, Nonaka, Spender, Tsoukas, amongst others), in this review I have identified academic papers as potentially relevant from information in the title and the abstract. The studies and areas of inquiry that are presented below are not meant to be exhaustive in terms of coverage of the field. An early attempt to synthesize these different publications in the area of knowledge and learning, for example, is the study conducted by Easterby-Smith and Lyles (2003) who developed a typology in mapping the key topics in the area. These include organizational learning, the learning organization, organizational knowledge, and knowledge management. The authors argue that the field has developed very rapidly (especially after 1995) mainly due to the diversity and specialization of the studies dealing broadly with the concept of knowledge. For the purposes of this study, I have read and reviewed most of the papers cited by Easterby-

Smith and Lyles (2003) to ensure that this current search goes as far back in time as it is possible. As it would become clear, some of the studies have had a more impactful contribution in the field and are cited repeatedly in scholars' attempts to make sense of the concept of tacit knowledge.

Gourlay (2006a: 1426) provides a useful starting point in the investigation of tacit knowledge in organization and management studies. He distinguishes among different fields of inquiry in social sciences to demonstrate the different understandings provided by authors in their attempts to conceptually capture tacit knowledge. It is evident that tacit knowledge is juxtaposed with explicit knowledge (according to Polanyi's famous division) or Ryle's (1949) distinction between know-how (tacit knowledge) and know-that (explicit knowledge). Gourlay (2006a) suggests that the idea that there are broadly speaking two different types of knowledge is widely accepted amongst academics. Table 2.2. offers an overview of the typology and use of the concept in different disciplines.

TABLE 2.2 NAMES AND TYPES OF KNOWLEDGE IN DIFFERENT DISCIPLINES OF ACADEMIC INQUIRY

Discipline	*Tacit Knowledge*	*Explicit Knowledge*
Philosophy	Knowledge-how; procedural knowledge; abilities	Knowledge-that; propositional knowledge
Philosophy (Polanyi)	Tacit knowing	Explicit knowledge
Psychology	Implicit Knowledge; tacit abilities; skills	Explicit Knowledge; declarative knowledge
Artificial Intelligence	Procedural Knowledge	Declarative Knowledge
Neuroscience	Covert Knowledge	Overt Knowledge
Organization and Management Studies; Education	Tacit Knowledge	Explicit Knowledge
Knowledge Management	Know-how	Know-what

Sociology of Science	Tacit / Encultured (forms of life)	Explicit / Symbolic

***Source**: Adapted from Gourlay (2006a: 1426)*

What is also particularly important to note is that within organization and management studies literature there are many different synonyms for the term 'tacit' (Ambrosini and Bowman, 2001). For example, Nelson and Winter (1982) equate tacit knowledge to 'skills' whereas Kogut and Zander (1992) believe that a 'recipe' is comparable to know-how and thus to tacit knowledge. Spender (1994) referred to such knowledge as 'implicit' or 'unarticulated' and Hu (1995) referred to it as 'uncodifiable' or 'procedural'.

Despite these differences in terminology, however, the use of the concept is quite common to all fields but there appear to be a number of ambiguities. Gourlay (2006b: 61-62) offers six of these ambiguities found in the literature and relate to whether: (a) knowledge is acquired through direct experience or whether we are biologically predisposed towards certain kinds of tacit knowledge; (b) the acquisition of tacit knowledge is a complex social process or whether it is acquired with little or no help from others; (c) tacit knowledge is essential for competent performance in concrete situations or whether it is also responsible for defensive routines; (d) tacit knowledge is the source of all knowledge with particular emphasis on innovative ideas and the source of sustainable competitive advantage or whether it can prove to be a conservative rather than innovative force – if we view such knowledge residing in traditions and cultures; (e) tacit knowledge can be converted into explicit knowledge or whether it is non-verbal, inarticulate, unconscious, and ineffable; (f) knowledge is ultimately an individual possession or whether it is both individual and collective (e.g. organizational).

As the thesis unfolds, I will attempt to clear up some of these apparent ambiguities. It will be argued that tacit knowing (rather than 'knowledge') is a complex social process (point *b*) and it is acquired through direct experience within social practices and organizational routines (point *a*). As the process of knowing is demonstrated in people's action, it is also context-specific and in organizational settings it is manifested in routines and practices. However, routines may remain unchanged for long periods of time and in that case tacit knowing become stubborn and difficult to change (point *c*). Changes in the structure of knowing due to a disturbance or breakdown in people's practical engagement may be a source of creativity and innovation which can contribute to competitive advantage (point *d*). Even though tacit knowing contains ineffability and it is, by definition, non-verbal, it does not mean that it cannot be reflected upon and contribute to a novel experience and action (point *e*). Ultimately, tacit knowing is an individual endeavor but requires a social (organizational) context to provide the framework in which it can be developed and understood (point *f*).

In the next section I begin the exploration of the concept of tacit knowing in organization and management studies literature and assess its relevance in the field.

2.3 THE RELEVANCE OF TACIT KNOWLEDGE IN ORGANIZATION AND MANAGEMENT STUDIES

Ever since Polanyi (1962; 1966) published his influential works on tacit knowledge, organization and management studies scholars embarked on a pursuit to relate and apply his concept for research in organizational settings. One of the earliest contributors to the area has been the work of Nelson and Winter (1982) who attempted to bring together and marry the concept of tacit knowledge and that of organizational routines in their distinction between lower-level (organizational skills) and higher-level (decision procedures) routines. Routines, for Nelson and Winter (1982), are repositories of tacit knowledge where knowledge is preserved within the firm by everyday practice of these routines. As they (Nelson and Winter, 1982: 73) have put it, “the performer is not fully aware of the details of the performance and finds it difficult or impossible to articulate a full account of those details”. Nelson and Winter further assert that the reason for tacit knowledge remaining tacit may be due to cost because “whether a particular bit of knowledge is in

principle articulable or necessarily tacit is not the relevant question in most behavioral situations. Rather, the question is whether the costs associated with the obstacles to articulation are sufficiently high so that the knowledge in fact remains tacit" (Nelson and Winter, 1982: 82).

Nelson and Winter's extensive discussions on skills and routines (Chapters 3 to 5 in their book) in organizational settings made tacit knowledge operational for organizational behavior research (Oguz and Sengun, 2011). A novel body of researchers emerged in the late 1990s and early 2000s that attempted to codify tacit knowledge based on the assumption that the process of knowing that Polanyi had in mind (tacit knowing rather than knowledge) and the outcome of knowledge (know-how) had no difference. Thus, although Nelson and Winter's discussion on skills and routines allowed for the operationalization of tacit knowledge, it also legitimized a misinterpretation of tacit knowing (Oguz and Sengun, 2011: 446). An immediate consequence to this misinterpretation was whether tacit knowledge can be managed or not since it can be viewed as emerging spontaneously in organizations and thus its management becomes harder. On the other hand, tacit knowledge was seen as one end of the knowledge spectrum (the other one being its explicit counterpart) and that meant that, in theory, it may be managed and controlled.

Nevertheless, many authors have drawn on the work of Nelson and Winter (1982) to argue that socially complex tacit knowledge that is diffused through a firm can constitute a valuable intangible resource (Barney, 1991) and can be seen as a source of competitive advantage (Kogut and Zander, 1992; Teece, *et al*., 1997). These authors have theorized that tacit knowledge is difficult to imitate and all but impossible to codify. Because it cannot

be codified, tacit knowledge cannot be separated out for sale through the medium of the market mechanism. This means that when tacit knowledge leads to high organizational performance, this performance can be sustained for some time.

These assumptions have influenced the work of Kogut and Zander (1992) who developed a theory of the firm that has in its core effective knowledge creation and transfer as the major advantage of firms in different markets. According to the theory, firms exist as social vehicles of certain voluntary activities as these activities are structured through organizational resources that do not exist at an individual level. This means that knowledge, although it is in the hands of individuals, is also expressed via certain routines through which people cooperate in organizations. Changes in those routines are what make organizations capable of renewal. Kogut and Zander also argue that activities which are designed to bring about a firm's growth through replication of its technologies increase the potential for imitation. This potential can only be tackled through innovation. Kogut and Zander introduce the notion of 'combinative capabilities' denoting the ability of the firm to recombine and use their current and future knowledge in their attempt to maintain their competitive position.

But perhaps the most influential figure in the area of knowledge and in particular its tacit dimension is the Japanese writer Ikujiro Nonaka and his colleagues (Nonaka, 1991; 1994; Nonaka and Takeuchi 1995; Nonaka and Toyama, 2003; Nonaka et al, 2006; Nonaka and Von Krogh 2009) whose research has influenced significantly our understanding of the concept in organization and management studies. The next section explores his work and others in organization and management studies.

2.3.1. Tacit Knowledge and its Relation to Knowledge Management

One of the most significant figures in this area of tacit knowledge and knowledge creation has been the Japanese management writer Ikujiro Nonaka (and his colleagues). Nonaka has published a number of influential papers in the area (Nonaka, 1991; 1994; Nonaka and Toyama, 2003; Nonaka et al, 2006; Nonaka and Von Krogh 2009) and a highly respected book (Nonaka and Takeuchi, 1995) that set the scene for subsequent works in the area of tacit knowledge in organizational settings. Nonaka's (Nonaka, 1994; Nonaka and Takeuchi, 1995) perspective focuses on gaining competitive advantage in the market place through the timely application of explicit (or codified) knowledge and tacit (or personal) knowledge. The foundation of this type of research centers on the distinction between tacit and explicit knowledge and the process of knowledge conversion, that is, how knowledge is converted from tacit into explicit and again into tacit. Nonaka (1994) and Nonaka and Takeuchi (1995) have created the *SECI* model of knowledge conversion which is composed of *Socialization* (the conversion of tacit into tacit knowledge), *Externalization* (the conversion of tacit into explicit knowledge), *Combination* (the conversion of explicit into explicit knowledge) and *Internalization* (the conversion of explicit into tacit knowledge).According to the authors, knowledge conversion starts from the individual level, moving upwards to the group level, which eventually reaches the organizational level through a bottom-up spiraling process. Knowledge creation, Nonaka and his colleagues argue, *always* takes this form in organizational settings. At the heart of their conceptualization of knowledge lays the concept of tacit knowledge that was first introduced by Michael Polanyi (1958; 1966).

While some authors have been sympathetic to Nonaka's work (e.g. Dyck et al, 2005), a number of critiques have been developed. These criticisms center around Nonaka's treatment of tacit knowledge, his reading and understanding of Polanyi's original work, and the problem of articulating or converting tacit knowledge into explicit knowledge (Gueldenberg and Helting, 2007; Gourlay, 2006a,b; Hong, 2012; Peters, et al 2011; Ribeiro and Collins, 2007; Tsoukas, 2003; Tsoukas and Vladimirou, 2001; Zhu, 2006). Gueldenberg and Helting (2007) and Hong (2012), for instance, argue that Nonaka's theory of knowledge conversion should be approached with caution in the West as the conceptual understanding residing in the model may only be applicable in the East (e.g. Japanese companies) rather than generalizing across the globe. This is because, according to Hong (2012: 203), the *SECI* model is built implicitly on traditional Japanese philosophies and cultural assumptions deriving from the concept of *ba* which places emphasis on shared mental, social, and physical space for engaging in knowledge creation and interaction. This reflects a particular trait of Japanese culture, namely their strong commitment for building and engaging in close interpersonal relationships with those whom they share a common fate or identity, and their cognitive style of preferring tacit over explicit knowledge.

Also, on the point of converting tacit knowledge into explicit knowledge, Gourlay (2006a) argues that Nonaka's proposition is flawed. Building on the work of the sociologist Harry Collins (2001a, b; 1993), Gourlay suggests that Nonaka's *Combination* and *Externalization* in the matrix appear to be problematic and ambiguous because they conflate knowledge conversion to knowledge transfer. He also, and perhaps more importantly, suggests that the perspective put forward by Nonaka (and his colleagues)

ignores the view that tacit knowledge may be partially or wholly inherently tacit. Similarly, Ribeiro and Collins (2007) point out how the so-called explicit forms of knowledge (e.g. instructions, manuals, templates) are devoid of any meaning without their being used skilfully by humans as part of their social, cultural, and material contexts in which they are embedded. The point of articulation and conversion of tacit into explicit knowledge is also discussed earlier by Tsoukas (2003) and Tsoukas and Vladimirou (2001). In other words, these authors argue that what is known cannot be separated from the particular experiences from which it emerges; it has no separate existence as any attempt to articulate it can result in a loss of its meaning.

The insights provided by Nonaka's (and colleagues) work gave rise to the development of ideas concerned with the fundamental role of organizational learning mechanisms and how they relate to effective business strategies. A number of scholars understand organizational learning as adaptive change process which is influenced by organizational memory and accumulated experience in development and modification of organizational routines. The subsequent work on knowledge termed as 'knowledge-based view' of the firm (see, for example, Eisenhardt and Santos, 2001; Foss and Foss, 2000; Grant, 1996; Nickerson and Zenger, 2004; Nonaka, 1994; Spender, 1996a) places emphasis on the inherent creative human action in open-ended contexts (Spender, 1996; Tsoukas, 1996; Tsoukas, 2002). As Tsoukas (2003) and Tsoukas and Mylonopoulos (2004) suggest, the knowledge-based view of the firm shifts the attention from assuming that knowledge *is* important in organizations to actually *understand* the ways in which knowledge is created in organizational settings.

The ideas expressed in Nonaka's work paved also the way for the concept of 'dynamic capabilities' (Eisenhardt and Santos, 2001: 139) which offered two basic arguments: First, a firm's competitive advantages are not so much linked to their overall knowledge pool but are derived from their ability to create and renew it; and, second, dynamic capabilities are the central part of the mechanism that allows firms to obtain economic returns from their ownership of knowledge assets (Teece, 2008: 1508). Overall, dynamic capabilities of firms involve the identification and absorption of new opportunities, reconfiguring of knowledge assets, competences and complementary assets, selection of appropriate forms of organization, proper allocation of resources, and establishment of appropriate pricing strategies.

The Dynamic Capabilities literature (Teece, 2010; Teece *et al*, 1997; Zollo and Winter, 2002) suggests that resources themselves are not necessarily sufficient for competitive advantage without the discretion of managers to make choices as to how they should be arranged and re-arranged in organizations so as to increase value and create advantage (Tsoukas and Mylonopoulos, 2004).Thus, the capability of the manager to make strategic decisions in terms of appropriate resource allocation is informed by (tacit) knowledge (Teece et al. 1997).

Teece and Pisano (1994: 537) described capabilities as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments". Eisenhardt and Martin (2000: 1105) view capabilities as the firm's internal processes which "integrate, reconfigure, gain or release resources to match and even create market change". The literature has tended to agree to the central role of dynamic capabilities in relation to change but the source of change has varied across elements

such as resources and capabilities (Eisenhardt and Martin, 2000; Helfat et al, 2007; Teece et al 1997; Winter, 2003), operating routines (Zollo and Winter, 2002) and resources and routines (Zahra, et al. 2006). Thus, some studies refer to dynamic capabilities as 'capacities' (Helfat, et al. 2007) or as 'routines' (Eisenhardt and Martin, 2000) by which an organization alters its resource base. Other researchers yet view capabilities as operating in two levels distinguishing between 'zero-level' (i.e. 'ordinary' capabilities that allow the firm to 'make a living' in the short run) and 'higher-level' capabilities (i.e. 'substantive capabilities' that are used to solve a problem) (Winter, 2003; Zahra, et al. 2006). Dynamic capabilities, in contrast, are 'higher-level' capabilities that operate to change ordinary or substantive capabilities.

An example of a dynamic capability is a firm's ability to learn new practices and routines (Eisenhardt and Martin 2000; Pablo et al 2007). Learning represents a dynamic process by which resources can be integrated and re-configured. Learning combines experiential learning and repetition in a non-linear fashion with the purpose of improving a firm's performance (Eisenhardt and Martin 2000). Zollo and Winter (2000) contend, however, that learning is not a dynamic capability *per se* but the necessary condition for dynamic capabilities to emerge. As they (Zollo and Winter 2002: 340) have argued, "dynamic capabilities *arise* from learning: they constitute the firm's systematic methods for modifying operating routines" (emphasis added).

Zollo and Winter (2002) distinguished between two types of routines: those employed in the operational activity of the firm ('operating routines') and those dedicated to the modification of operating routines ('dynamic capabilities'). According to Zollo and Winter (2002), creating and preserving dynamic capabilities requires special learning

mechanisms in organizations. The authors argue that dynamic capabilities result from organizational learning and stable patterns of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness. Zollo and Winter argue that such mechanisms involve accumulation of experience, knowledge articulation (e.g. the process through which implicit (tacit) knowledge is articulated through collective discussions or performance evaluation processes) and knowledge codification (e.g. the process of codifying the use of manuals or tools).

At the core of these conceptualizations lays the idea that a dynamic capability is the ability of the firm to *reflectively engage* with the accumulation, use, and development of assets so that a continued congruence is secured between capabilities. As they are conceptualized, people become aware of capabilities by deliberating and analyzing firm performance. A change in the market conditions, or technology, or personnel, might bring about a need to do things differently, and if this change is thought about, people may come to realize what it is that they are capable of. At its most basic this requires reflection on what constitutes an adequate level of performance and how this might be measured. But knowledge may take place without such a reflection; people cope with changes, they adjust and even learn new skills, but it appears that it is only when experiences are made apparent through articulation and codification that we can talk about dynamic capabilities rather than just an evolution of experience (Winter 2000; Zollo and Winter 2003). In other words, it is only through 'deliberate cognitive processes' (Zollo and Winter 2002: 340) of learning that dynamic capabilities are realized.

In summary, the work of Nonaka (and colleagues), despite some important criticisms, have paved the way for subsequent work in the field of organization and management studies and provided the foundations for resources and capabilities literatures to emerge and proliferate. As the resource-based theory of the firm was enhanced by capabilities research, it becomes apparent that despite some important ambiguities, there is a consensus on certain areas. According to Easterby-Smith and Prieto (2008), tacit knowledge plays a significant role in both areas of research: resources and capabilities. Capabilities of a firm reside in their routines (especially 'high-level' routines) rather than their resources. Learning is the core mechanism by which firms create and renew their capabilities and thus, an understanding of the mechanisms of learning is critical to our understanding of firms' capabilities. How change is achieved, however, is still under-explored in the literature of capabilities. For this reason, researchers have begun to pay more attention to the area of organizational routines which I turn to below.

2.3.2 Tacit Knowledge and its Relation to (Organizational) Routines

A related and relevant field of research that has the tacit aspect of knowledge in its core assumptions is the area of (organizational) routines. Routines have been seen for a number of years as the foundation of organizational capabilities, particularly due to the work of Nelson and Winter (1982) in evolutionary economics. Current theories of dynamic capabilities are based on the concept of 'capabilities as routines' (Eisenhardt and Martin, 2000; Helfat et al 2007; Teece et al, 1997). As we have seen in the previous section (2.3.1), dynamic capabilities are learned and stable patterns of collective activities that modify a firm's operating routines (Zollo and Winter, 2002). The distinction between

processes in steady state and processes contributing to change is similar to the distinction between operational and dynamic capabilities (Helfat et al, 2007).

Thus, according to Pentland et al (2012: 1488), any foundational theory of organizational routines should explain how routines change (or fail to change) over time. Pentalnd et al (2012) identified four aspects of routines that are of importance when researching and theorizing about the concept: (a) Formation of routines is typically taking place through repetition and they can form very quickly; (b) inertia or stability in the patterns of action of a routine even though external conditions maybe changeable; (c) endogenous change of routines even though external conditions remain relatively stable; and (c) routines as a primary vehicle of organizational learning.

Routines are also linked to the concept of 'absorptive capacity' (Cohen and Levinthal, 1990; Zahra and George, 2002) which according to Zahra and George (2002: 190) is defined as "a set of organizational routines and processes by which firms acquire, assimilate, transform and exploit knowledge to produce a dynamic organizational capability". From this definition, we can infer that organizational learning is based on routines and the creation of dynamic capabilities depends on the underlying routines actually changing (Winter, 2003). It follows then, that if routines exhibit inertia, learning will be slow and organizational capabilities may not be particularly dynamic (Pentland et al 2012).

In a recent special issue of *Organization Science* on 'routine dynamics', Feldman et al (2016) conceptualize routines as "recognizable, repetitive patterns of independent action carried out by multiple actors" (Feldman et al 2016: 505). These authors view routines as 'dynamic' for two reasons: (a) the action patterns observed in routines are temporal, that

is, the performance of a routine cannot persist indefinitely as it exists as a trace through time and space; (b) any action pattern that is repeated can potentially change from one performance to the next. Routines are not, therefore, static things but dynamic and ever changing processes through the ongoing effort of those who perform them. Research on routine dynamics is oriented to the internal dynamics of routines and takes as focal point of attention and analysis the actions of human (and non-human) agents along with the patterns created through these actions (Feldman 2016). Routine dynamics represent one branch of research on routines that is based on the idea that "routines are practices with internal dynamics that contribute to both stability and change in organizations" (Feldman et al: 2016: 505; Feldman and Pentland 2003). Observations of stability and change in routines that could not be explained by exogenous forces (e.g. management demand, technological changes, environmental shifts, etc.) can be explained by research on routine dynamics. For example, Feldman (2000) and Pentland et al (2011) noted that as people enact routines they generate new patterns of action even when there was no evidenced exogenous force that caused these changes. Also, it has been observed that when significant exogenous forces were impacting on organizations, people enacting routines often manifested considerable flexibility in the actions they took to maintain patterns of action (Feldman 2000; Howard-Grenville 2005; Pentland and Feldman 2008). As Feldman (2016: 27) asserts, the focus on the process of routine dynamics allow us to address these issues by "focusing on enactment rather than representation, on process and potentiality rather than likelihood, and on relationality rather than correlation".

Routines are conceptualized as comprising of two levels (or parts) (Feldman and Pentland, 2003; Parmigiani and Howard-Grenville, 2011; Pentland et al, 2012): First is

the concrete level, the core of routines that consists of the specific performances of the routine which may exhibit some variations. Feldman and Pentland (2003) refer to this level as the 'performative' aspect of routines and define it as the specific actions that take place at specific times and places. Second is the more abstract level of routines that shapes and is shaped by the first, that is, the performative. Feldman and Pentland (2003) refer to this part as the 'ostensive' aspect, a more abstract level that what it contains is more debatable. The ostensive and the performative aspects of routines have initially been distinguished by Feldman (2000: 622) drawing on earlier work of Latour (1986) who used the same terminology in his description of power. Ostensive routines may be devoid of active thinking, argues Feldman (2000), but routines enacted by people (performative) in organizations involve a range of actions, behaviors, thinking and feelings. Ongoing performances, however, are not solely determined by ostensive aspects. Variations in the enactment of routines occur on a daily basis without necessarily altering the ostensive aspect of a routine. Performances can lead to change of the ostensive aspect when participants repeat the same variations, reflect on them, and reorient understandings of the routine for future performances (Feldman and Pentland 2003).

The performative aspect of routines has also been referred to as 'skills' (Nelson and Winter, 2003) or 'dispositions' (Hodgson and Knudsen, 2010), or 'practices' (Orlikowski, 2002), or even 'collective mind' (Wick and Roberts, 1993). In the literature on organizational routines, the core level, i.e. the performative aspect of routines, has been generally agreed upon in its theoretical foundations (Pentland et al, 2012). However, the more abstract level, i.e. the ostensive aspects of routines, have been more difficult to

define and agree a consensus as to what it contains. This is because of two important reasons:

(a) Routines are almost never carried out by humans alone; instead, they are carried out by sociomaterial ensembles of actants that include artifacts such as tools, templates, written procedures, information and communication technologies, and so on. Orlikowski (2007: 1436) for example argues that "*every* organizational practice is *always* bound with materiality. Materiality is not an incidental or intermittent aspect of organizational life; it is integral to it" (original emphasis).

(b) The ability to observe the ostensive level is difficult as dispositions or skills operate at a background as an unseen force and the ostensive patterns of actions vary from one routine to the next or from one perspective to another. Pentland et al (2011) refer to the 'ostensive' part of the routines simply as 'history'. If this conceptualization is accepted, it implies that ostensive routines are path-dependent, i.e. each action performed in routines is dependent on prior actions and future actions depend on current ones.

Moreover, a paradox arises in that even though the ostensive part of the routine remains stable, the performative aspect can be highly diverse. This results in an apparent oscillation between stability and change in organizational routines. Farjoun (2010) suggested that this stability and change in routines can be better thought of as a decoupling of outcomes (ostensive) from processes (performative). Pentland et al (2011: 1380) used the example of invoice processing in four different organizations which although appeared to be an unproblematic, structured, repetitive and institutionalized routine, it was characterized by large variations in the performance.

It appears then that no two routines are the same. It is apparent that the decoupling of ostensive from performative routines, i.e. outcomes from processes, sheds light on the paradoxical nature of stability and change on organizational settings. We can further elaborate on this paradox by thinking of mundane routines that we may participate in our everyday lives – an example I will concentrate further in the next chapter. Think for example of riding a bicycle to go to work on a daily basis. This action can be differentiated if we think that the ostensive part of the routine (or, the outcome) is to arrive at work safely and on time. The performative part (or process) of the routine, on the other hand, is the performance execution itself, that is, riding through the busy roads, negotiating through traffic, paying attention to other cyclists or vehicles on the road including pedestrians, and so on. Therefore, the ostensive aspect remains largely unchanged (i.e. arriving at work safely and on time) whereas the performative aspect can be adjusted depending on the road conditions, traffic, accidents, even our own feelings, moods and body capabilities. It is easy to compare our execution of the routine to that of our colleagues, for example, only to identify that the ostensive part remains largely unchanged whereas the performative might vary significantly from person to person.

Even executing the same routine over and over again would only affect the performative aspects, not the ostensive. As Cohen (2007: 782) suggests:

> "For an established routine, the natural fluctuation of its surrounding environment guarantees that each performance is different, and yet, being a routine, it is 'the same'. Somehow there is pattern in the action, sufficient to allow us to say the pattern is recurring, even though there is substantial variety to the action, variety sufficient to allow us to rule out any two occasions being exactly alike".

From a more phenomenological (or interpretivist) perspective, routines are conceptualized as practices in which patterns of action are an essential part of routines (Feldman and Pentland, 2003; Feldman and Orlikowski, 2011; Parmigiani and Howard-Grenville, 2011, Rerup and Feldman 2011). From a practice perspective, patterns are enacted through actions taken by people (or machines) and are reflective of the actions that constitute them (Pentland et al 2012: 1489). Feldman (2000: 613) argued that "ideas produce actions, actions produce outcomes, and outcomes produce ideas. It is the relationship between these elements that generates change". This reflective response to previous outcomes signifies the central role of reflection in routine changing.

The concept of reflection is then particularly useful when viewing routines as practices. In a broad sense, reflection means engaging in comparison, considering alternatives, seeing things from different perspectives, and drawing inferences (Jordan et al 2009). As such, reflection is a major element of learning from experience especially when it comes to critical or transformative types of learning (Argyris and Schon, 1978) that challenge previous ways of thinking and acting instead of just adapting them slightly. In parallel to organizational reflection is the concept of mindfulness which can be defined as an individual learning process characterized by a heightened awareness of the specific circumstances in a given situation (Langer, 1989; 1997).

The concept of mindfulness has its origins in psychology and entered the organization studies vocabulary through the work of Karl Weick and his colleagues (Weick and Sutcliffe 2006; Weick et al 1999). Jordan et al (2009: 468) define mindfulness as "a state of mind or mode of practice that permits the questioning of expectations, knowledge and the adequacy of routines in complex and not fully predictable social, technological, and

physical settings". Importantly, this definition implies that mindfulness does not exclude or oppose the idea of routines, but may instead build upon routinized action (Levinthal and Rerup, 2006). Therefore, mindfulness can be regarded as an organizational phenomenon which even though it may be grounded in individual mindful behaviors, it also builds on organizational mechanisms. This collective mindfulness can be realized in two different levels (Jordan, et al 2009):

(a) The level of direct interaction in dyads or small groups: Collective mindfulness depends on communication where through conversation, organizational actors collectively tell each other about – or make sense of – an unusual experience. This 'heedful interrelation' (Weick and Roberts 1993) may take place in reaction to an unexpected event. Frequently, however, this interrelation is supported by interactive routines, that is, routines that evoke awareness of context in interaction, which are carried out by organizational actors quite habitually. In mindful organizations, as Weick et al (1999: 87) has suggested, "there is variation in activity, but there is stability in the [cognitive] processes that make sense of this activity". Importantly, these cognitive routines of evaluation are used to detect and/or cope with unexpected events or moments of crisis. Dyadic or small group interactions are important because they direct attention to things that may have been unnoticed or unexpected and therefore help organizational actors to become more reflective of the action they participate in (reflection-*in*-action).

(b) At a more general level routines help organizing mindfulness: mindfulness can also be conceptualized with reference to organization-wide rules and routines

that regulate interactive routines and individual mindfulness. Louis and Sutton (1991), for example, suggested that mindfulness is triggered by some element of surprise, and as such, it could be argued that surprises and instability rather than stable structures take prominence. Although routines (and rules) build on necessary resources for mindful action, these routines need to be complemented by other routines that are directed towards the organization of instability, making organizational members aware of diverse action ensembles and including mindful application of routines (Jordan, et al 2009).

Rerup (2005: 452) defines mindfulness as the quality of attention enabling entrepreneurs and organizational actors to minimize errors, remain vigilant, and respond effectively to unexpected events. He argued that mindfulness makes actors aware of what they do and what they tacitly know as well as how distinct practices have positive and negative consequences when they are extrapolated from one task to the next or one venture to another. These 'intelligent failures' (Ucbasaran, et al 2013: 196) which can be defined as failures for which expectations are not met, may be increased by mindfulness and can be proved useful for future learning. Thus, mindfulness may be a way of maximizing the learning benefits of failure experience. Such attentional engagement involves mindful information processing as defined by Levinthal and Rerup (2006) who distinguished between mindful (or controlled) information processing from less mindful (or automatic) information processing and argued that the latter involved routinized behavior and reinforcement learning. They defined mindfulness as attentiveness to context and the capacity to respond to unanticipated cues or signals (Levinthal and Rerup 2006: 506). Weick and Sutcliffe (2006) stressed the importance of 'quality' of organizational attention

that is no so much concerned with encoding and conceptual thinking, but concentration and stability of attention. Attentional mindfulness is a particular variant of attentional engagement.

Although some authors differentiate between mindfulness and reflection (Weick and Sutcliffe 2006), with mindfulness being characterized as heightened, 'pre-reflexive' awareness to the situation at hand and reflection being characterized by engaging in comparison and review of the situation at hand, a number of similarities have also been highlighted. Both reflection and mindfulness are described as being triggered by surprises and discontinuous events and result in questioning of existing ways of doing things thus enhancing developments of new actions and practices. Moreover, both reflection and mindfulness are deemed appropriate in the face of complex environments and problems that call for improvisations and problem setting rather than mere problem solving (Levinthal and Rerup, 2006; Jordan, et al 2009).

Nevertheless, many events in an organization's life (e.g. substitute equipment, adjust to seasonal demand, etc.) can be anticipated with the use of an organizational routine or a standard operating procedure. These predictable routines, however, may take unpredictable paths and what was once easily fixed or tackled it could become unstable and unpredictable. This brings forward a fundamental question in routines research: How do routines change? Feldman and Pentland (2003) identified two reasons that shed light to this question: First, participants engaging in routines might not perform the same routines in exactly the same way every time; and, second, as routines are enacted by multiple participants, it is possible that disagreements occur on how to perform a routine that are based in differences in orientations, positions, and power in organizations. In

addition, Kaplan and Orlikowski (2013) suggested that managers face uncertainties in relation to the business, the market, and the environment in which a firm operates and therefore these uncertainties lead to breakdowns in understandings on how to move organizational tasks forward. Therefore, these authors and others (Farjoun et al 2015; Feldman 2003; Feldman et al 2016; Pentland et al 2012) suggest that breakdowns, accidents, surprises, or crises in the enactment of routines can be responsible for their change.

From the preceding discussion in this Chapter we can draw some useful conclusions that relate to the ways in which knowledge and routines are intertwined and implicate the remainder of this thesis. First, a firm's advantage resides in its ability to create and renew (tacit) organizational knowledge. Second, creating and renewing organizational routines means to appreciate the role of learning and in particular its tacit component. Third, taking tacit knowing seriously implies that attention is placed on both stability and change in organizational routines. Fourth, understanding changing routines involves an appreciation of breakdowns, accidents, disturbances, and discontinuities in organizational life. The following table (Table 2.3.) summarizes the main assumptions found in routines perspective.

TABLE 2.3 A SUMMARY OF KEY ASSUMPTIONS OF ROUTINES PERSPECTIVE

	Routines Perspective
Main interests	How routines operate; internal dynamics
Level of Analysis	Routines themselves
Unit of Analysis	Routines as 'parts' (internal structure of routines, what is inside the 'black box')
Empirical Attention	Actors' influence on routine performance How routines change and remain stable over time and the role of agency and artifacts in this

	How routines are created or change
	When and how routines break down
Stability and Change	Change and stability always possible
	Same mechanisms (agency, artifacts) underlie change or stability

***Source**: Adapted from Parmigiani and Howard-Grenville (2011: 418)*

2.4 CHAPTER SUMMARY

This Chapter has provided an overview of the developments around the concept of knowledge within the field of organization and management studies. It has been argued that despite a general agreement that tacit knowledge is important in organizations, the proliferation of studies on the topic has contributed to more ambiguity than clarity. To tackle some of these ambiguities, the Chapter reviews two main areas in organization and management studies literature in which the concept of tacit knowledge appears to be particularly important. These are related to knowledge management and organizational routines. Since the work of Nonaka (and his colleagues) on knowledge creation, considerable attention has been placed on tacit knowing as a strategically significant resource of the firm that if managed appropriately, it can lead to competitive advantage. The resource-based theory of the firm views (tacit) knowledge as a fundamental part of a firm's ability to gain and sustain advantages in the marketplace. The literature on

(dynamic) capabilities, too, places tacit knowledge at the core of the learning organization in its pursue to creating and renewing its resource base. However, what is the exact mechanism by which knowledge is generated and developed so as to contribute to changes in the resources still remains under-explored. To address these issues, the concept of 'dynamic routines' has emerged as a promising research area in which organizational routines are seen as practices with internal dynamics that contribute to both stability and change in organizations. This particular branch of research focuses the attention on the actions of human (and non-human) agents and the patterns created through these actions.

Therefore, although the importance of tacit knowledge is acknowledged and appreciated in these prominent literatures, what is its exact role and how (and why) it contributes to both stability and change in organizational settings is still under-researched. This may be due to lack of a clear framework from which tacit knowing can be theorized and researched that can potentially clear the way for a more robust understanding of the contribution of tacit knowledge in changing routines. For this reason, the next Chapter (Chapter *Three*) embarks on an attempt to answer the questions of what is tacit knowledge, how can we – as researchers – understand it, and how can we reconceptualize it in the context of organizational routines.

CHAPTER *THREE*: WHAT IS TACIT KNOWLEDGE?

3.1 INTRODUCTION

In this Chapter (Chapter *Three*) I delve deeper into the concept of tacit knowledge in an attempt to critically examine its main contributors. The purpose of this critical examination is twofold: *First*, in spite of several authors' attempts to re-conceptualizing the tacit, an appropriate framework through which tacit knowledge may be viewed still remains elusive. A novel framework is needed which may be more appropriate in eliminating a number of misunderstandings that have arisen and can be more productive in moving the concept forward. *Second*, building on this novel framework of the tacit, we can be in a better position to access and research tacit knowledge in organizational settings. This is of particular importance because as we have seen in the previous Chapter (Chapter *Two*), one of the main problems associated with the concept is the apparent difficulty associated with researching the tacit.

Tacit knowledge plays a significant role in organizational life. This is not surprising as the concept has been strongly linked to skilful action where organizational members know many things about what they do but when they are asked to describe and give an account of their action, they often find it hard to explain it in words because, it has been argued, effective performance depends on knowledge that cannot be explicitly formulated in full (Ambrosini and Bowman, 2001; Nonaka and Takeuchi, 1995; Tsoukas and Vladimirou, 2001). Building on this observation, several studies have sought to explore further the concept but critical misunderstandings still remain. The main one is that tacit knowledge is still understood as depicted in Nonaka's work and the *SECI* model of knowledge conversion, that is, tacit knowledge that awaits its conversion into explicit. Tsoukas (2011) has argued that this prevalent conceptualization of tacit knowledge is built on the premises of a cognitivist epistemology in which tacit knowledge is thought to be a mental capacity awaiting its symbolic representation or conversion into explicit knowledge by merely retrieving it. In so far as tacit knowledge is a mental phenomenon, it should be accessible to consciousness. However, accessing tacit knowledge can be achieved through non-cognitivist ways but these have not been fully explored in the literature and, only recently, some authors have attempted to shed light on this alternative approach (Sandberg and Pinnington, 2009; Yanow and Tsoukas, 2009).

Nonaka and his colleagues are perhaps the one who deserve the most credit in raising awareness of tacit knowledge in organization studies but are also the ones who are responsible for the subsequent misunderstandings of the concept. It could be argued that conceptualizing something as mystical or elusive as tacit knowledge is problematic but this is not necessarily the case. Such problems can – and have – indeed arisen because

many authors have started from the wrong premise which places tacit knowledge to the cognitive domain and, as such its access becomes a very difficult, if not impossible, task. Therefore, we may need to change our perspective from which the tacit can be viewed. A more interpretivist [or, what Tsoukas (2011) refers to as 'phenomenological'] account of tacit knowledge is needed in which the concept accrues its special place as the necessary condition for explicit knowledge to exist. We can get access to tacit knowledge through action and in retrospect. Only if we, as organizational researchers, change our perspective of viewing the tacit, we can have a better understanding of the concept that will be no more mystical, elusive, and inaccessible.

In this Chapter, therefore, I aim to understand how knowledge can be (re-) conceptualized in order to allow for it to be accessed, analyzed, researched and ultimately understood. By clearing up the conceptual misunderstandings, the next step involves an assessment of the tacit in relation to organizational routines. To do so, we have to go back to the source: its originator, Michael Polanyi. But this may not be enough as more recent accounts that aim to understand the tacit have emerged in sociology of knowledge. One of them is the work of the British sociologist Harry Collins, whose book *Tacit and Explicit Knowledge* attempts to shed fresh light on the concept because, as he argues, Polanyi's account of the tacit is responsible for the many subsequent misunderstandings associated with it. My purpose in this Chapter is to understand whether his conceptualization is complementary and consistent to Polanyi's work or whether it is incommensurate in some ways. This will shed more light on a number of areas that remain insufficiently understood such as what is tacit knowledge and what is its relation to explicit, how knowledge can be created, and what is the role of concepts such as 'attention' and

‘reflection’ in accounts of the process of tacit knowing. Also, this will have implications on how the process of knowing is understood in relation to organizational routines and their dynamics as routines change and stabilize within organizational settings.

In the next section I begin this exploration by drawing on Polanyi’s work and his understanding of knowledge as comprising of subsidiary particulars and focal targets. Following this, I engage with the work of Collins, particularly his latest book contribution titled ‘*Tacit and Explicit Knowledge*’. I continue this Chapter by offering a number of implications from these accounts and continue my understanding by developing a theoretical framework which may be used to better understand tacit knowing and its close relation to organizational routines.

3.2 MICHAEL POLANYI ON THE TACIT

One of the first writers to discuss the concept of tacit knowledge was the British philosopher Gilbert Ryle (1945; 1949). Ryle distinguished between two kinds of knowledge: knowing-*that* and knowing-*how*. By this distinction, Ryle points to the difference between propositional knowledge (knowing-*that*) and knowledge of how to perform cognitive tasks (knowing-*how*). He insisted that these two types of knowledge are not independent but inter-dependent and cannot be reduced to one another. Acquiring know-*that*, does not lead to being able to use it. In Ryle's famous example, knowing the rules of chess does not tell you how to play chess. Thus, for Ryle, to make knowing-*that* useful, requires appropriate know-*how* and such knowing-*how* is only acquired through practice (Ryle, 1949: 41).

These insights by Ryle have given credence and inspiration to another philosopher of knowledge, Michael Polanyi (1962; 1966). In his influential works, Polanyi went to great lengths to devise a theory of knowledge that centers on its tacit dimension as being the

most significant form of all knowledge. His basic claim is that “all knowledge falls into one of these two classes: it is either tacit or rooted in tacit knowledge” (Polanyi, 1962: 195). One of Polanyi’s most significant innovations in his accounts of knowing is that it consists of three complementary but mutually exclusive forms of comprehension: *subsidiary* particulars, a *focal* target, and a *person* (a subject) who links the two together. All knowledge, for Polanyi, depends on our skilled performance of integrating subsidiary particulars into focal targets in order to arrive at meanings. Thus, for Polanyi, knowledge is a personal and individualistic endeavor of continuous integration and re-integration of subsidiary particulars.

These integrations, for Polanyi, are largely inarticulate. Polanyi’s most quoted line is that “we know more than we can tell” (Polanyi, 1966: 4), which implies that the part of knowledge that remains unvoiced is the tacit, inarticulate aspect of all knowing. Polanyi came to understand these inarticulate accomplishments humans share with other animals as crucial tacit contributors to human learning and knowing. Language, for instance, can be regarded itself as a tacit skill. In learning a new language, Polanyi insists, we have to attend to the separate words, even the letters of the alphabet if it is an unfamiliar one, in order to link them together to create meaning. But if we master the use of language, we no longer do that. We attend to the meaning without being aware of the letters and the words of the language. “[Letters, symbols, etc.] can serve as instruments of meaning, only by being subsidiarily known while fixing our focal attention on their meaning” (Polanyi, 1962: 30). Crucially, for Polanyi, what is tacit must not be equated to what is unconscious, but, instead, it should be contrasted with what is explicit.

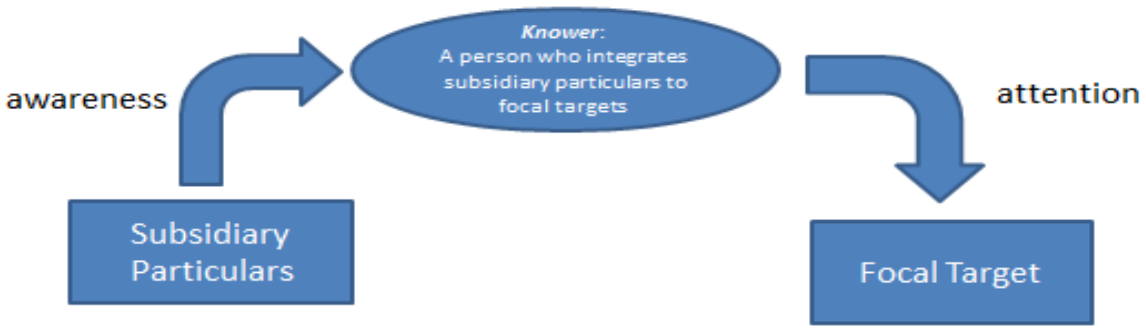
> "When reading a text or listening to speech we have a completely *conscious* awareness of it, even while we remain consciously aware of the text also in terms of its message, to which we keep attending focally" (Polanyi, 1962: 92, emphasis in original).

Focal awareness regards the meaning that has been contributed by subsidiary particulars' integration in the structure of knowing. Knowing, in turn, for Polanyi, has a 'from-to' structure: the particulars bear on the focus *to* which I attend *from* them (Tsoukas and Vladimirou, 2001: 982). The structure of tacit knowing, for Polanyi, is as follows: *the subsidiary particulars that form the background of any skilful performance are integrated and re-integrated in order to attend to our focal targets so that meaning can be created*. For example, one has subsidiary awareness of holding a hammer in the act of focusing on hitting a nail. In being subsidiarily aware of holding a hammer, the individual sees it as having a meaning that is eliminated if that person focuses attention on how he/she is holding the hammer.

Subsidiary awareness and focal awareness are mutually exclusive (Polanyi, 1962: 56). If we switch our focal attention to particulars which we were only subsidiarily aware before, the meaning is lost and the corresponding action may become clumsy (Tsoukas, 2011: 460). If, for instance, a speaker focuses his/her attention on the grammar being used rather than the act of speaking, he/she would be unable to create sense. Polanyi (1966: 10) suggested that we must learn to rely subsidiarily on particulars for attending to something else, thus our knowledge of them remains *tacit*. Knowing something, therefore, comprises of the ability of an individual to connect the subsidiary particulars to a focal target. Such a connection is made possible through action and its realization is

retrospective. We do not necessarily know what to do before we actually do it and then reflect on it. The following figure (Figure 3.1) depicts the structure of personal knowledge.

FIGURE 3.1 THE STRUCTURE OF PERSONAL KNOWLEDGE



***Source**: Adapted from Tsoukas (2011: 460)*

An example that may be used here to demonstrate the performative character of tacit knowing and the integration between subsidiary particulars and focal targets is the use of geographical maps (see also Tsoukas, 2011: 457). A map is a printed (explicit) representation of a particular place or territory. As such, we may be familiar with a map *per se* (of, say, Manchester city center) but to *use* it, we need to be able to relate it to the

real world outside of the map. To do so, as Tsoukas (2011) suggests, we need to be able to do three things: First, we need to identify our current position in the map (e.g. 'I am here, at Piccadilly Train Station'). Second, we need to be able to identify where we want to get to (e.g. 'I want to go to MMU Business School'). Third, we need to be able to reach our destination by identifying various landmarks and relate the landscape around us ('I should find the Corner House and turn left'). This means that no matter how elaborate a map is, its use requires the skilful judgment of a reader to relate the map to the world (Polanyi, 1962: 18-20). Thus, meaning is created through the skilful performance of integrating the subsidiary particulars (e.g. understanding how to read a map properly, negotiating our way through Manchester's traffic, etc.) to our focal target (e.g. getting to our destination).

These particulars are operating in our background understanding of going by in our everyday lives. Thus understood, meaning is inextricably linked to a personal integration of linking subsidiary particulars and focal targets. Polanyi called this a condition of 'indwelling' in subsidiary particulars, in things around us such as tools, equipment, symbols, etc.: As he notes, "we pour ourselves out into them and assimilate them as part of our own existence. We accept them existentially by 'dwelling' in them" (Polanyi 1962: 59). This is the reason why Polanyi's dictum 'we know more than we can tell' bears an enormous significance in our investigation of tacit knowing. When we carry out a task, what we can tell is only what we are focally aware of. When we engage in an action, we cannot identify the particulars that make up the background on the basis of which our action is rendered possible. Our tacit knowledge of subsidiaries is manifested in our patterns of action (Tsoukas 2011: 460-464).

These observations have led authors to theorize that there is always a part of tacit knowledge that remains hidden, inaccessible, and difficult to communicate; in other words, tacit knowledge contains an *ineffability* which makes it impossible to verbalize or convert, or articulate (Chia and Holt, 2006; Tsoukas, 2005; 2003). As Polanyi (1962: 88; emphasis in original) suggests:

> "Subsidiary or instrumental knowledge, as I have defined it, is not known in itself but is known in terms of something focally known, to the quality of which it contributes; and to this extent it is unspecifiable. Analysis may bring subsidiary knowledge into focus and formulate it as a maxim or as a feature in a physiognomy, but such specification is in general not exhaustive. Although the expert diagnostician, taxonomist and cotton-classer can indicate their clues and formulate their maxims, they know many more things than they can tell, knowing them only in practice, as instrumental particulars, and not explicitly, as objects. The knowledge of such particulars is therefore ineffable, and the pondering of a judgment in terms of such particulars is an *ineffable* process of thought".

It is true that in a moment of knowing there are ineffable contributors to knowing but Polanyi uses the term 'ineffable' to point towards two factors increasingly unavailable to consciousness to indicate: (a) an expression of the obvious fact that when we focus on one thing there are innumerable contributors to the knowledge of the moment that we cannot at the same time be focusing upon, or (b) it is a recognition that we cannot articulate clearly (or, perhaps, not at all) how we carry out skills and discriminate through connoisseurship (Gulick, 2016). None of these aspects is, at least in principle, excluded from being made explicit even though they may remain ineffable within subjective experience.

This is exemplified in one of Polanyi's famous examples of tacit knowing: our ability to riding a bicycle. Polanyi has shown how the knowledge involved in such an activity cannot be made explicit, involves a bodily skill, and cannot be easily articulated. To convince the reader, Polanyi (1966: 6-7) states: "...in order to compensate for a given angle of imbalance (a) we must take a curve on the side of the imbalance, of which the radius (r) should be proportionate to the square of the velocity (v) over the imbalance $r \sim v^2/a$", hence suggesting that bike-riding, although tacit in its execution (performance/practice) could consist of explicit knowledge. However, Polanyi argues, we cannot learn *how* to ride a bicycle, to keep our balance on it, by studying this mathematical formula. Such knowledge is only useful if we want to build a bike-balancing robot. So tacit knowing contains a 'personal coefficient' (Polanyi, 1962: 17) which is always manifested in skilful performance carried out by the knower. Subsidiary particulars are known for as long as they contribute to the action performed. As Polanyi (1962: 62; emphasis in original) remarks:

> "This is the usual process of unconscious trial and error by which *we feel our way* to success and may continue to improve on our success without specifiably knowing how we do it—for we never meet the causes of our success as identifiable things which can be described in terms of classes of which such things are members. This is how you invent a method of swimming without knowing that it consists in regulating your breath in a particular manner, or discover the principle of cycling without realizing that it consists in the adjustment of your momentary direction and velocity, so as to counteract continuously your momentary accidental unbalance".

How do we 'feel our way' to successfully completing an action? According to Polanyi (1966: 10-13) (see also Tsoukas, 2011: 460-462) the structure of tacit knowing has three

aspects: the *functional*, the *phenomenal*, and the *semantic* (see Table 3.1). The *functional* aspect consists in the 'from-to' relation of subsidiary particulars to the focal target. We know the particulars tacitly for attending to a particular action focally. The *phenomenal* aspect involves the transformation of subsidiary experience into a new (sensory) experience. Finally, the *semantic* aspect is the meaning of the subsidiaries, which is the focal target in which they bear.

TABLE 3.1 THE THREE-DIMENSIONAL STRUCTURE OF TACIT KNOWING

- **The *functional* dimension:**

From-to knowing: we know the particulars by relying on our awareness of them for attending to something else.

- **The *phenomenal* dimension:**

The transformation of subsidiary experience into a new (sensory) experience.

- **The *semantic* dimension:**

The meaning of subsidiaries (i.e. the focal target on which they bear).

***Source**: Tsoukas (2011: 460-462)*

This may become clearer if we return to the previous example of reading a geographical map. In attempting to get to a particular destination (our focal target), we rely subsidiarily on our understanding of walking in a city, negotiating through the traffic, using the pedestrian paths and crossing the streets without endangering ourselves or other pedestrians/motorists. This is the *functional* aspect of tacit knowing. The *phenomenal* aspect involves locating ourselves in the city and in relation to the map, walking through the various landmarks and places of interest and creating new experiences of walking into a novel environment. Such an activity involves the transformation of our subsidiary experiences into new experiences. The *semantic* aspect, finally, involves our acquiring of new information (or what Polanyi means by creating new 'meaning') of the city center, its streets, people, landmarks, cafes, and so on. Overall, in all aspects of life, from a simple

task of moving our eye muscles when we observe something to doing a PhD in social sciences, we are normally focally unaware of how we do them.

The preceding discussion demonstrates that both Ryle and Polanyi agree that in order to know something, you need to engage in a practice; to know chess you need to play chess, to speak a language you need to practice it, to ride a bicycle you need to get on it (Brown and Duguid, 2001; Duguid 2005, Scott, 1971). However, Ryle's (1949) account diverges from that of Polanyi's in the fact that for him know-how involves a cognitive or intellectual effort whereas Polanyi's notion of 'indwelling' manifests a non-cognitive realm of understanding that we achieve in our efforts to know something.

In cognitive psychology, for instance, the term tacit knowledge is widely used by a group of researchers engaged in intelligence testing and job performance prediction (Sternberg et al, 1993; Sternberg et al, 1995). While this group cites Polanyi's 'we know more than we can tell' statement and frequently use the term tacit knowledge to define their approach, they equate their approach to Ryle's know-how' and to practical or 'everyday' intelligence. Polanyi's theory of 'tacit knowing', however, uses both intellectual and practical knowing (Polanyi, 1966: 7) by integrating both Ryle's concepts – know-how and know-that – in the model. Also, know-how for Ryle refers to a distinct realm of knowledge, not necessarily a primary understanding (Ryle, 1949: 40). This supports the view that Ryle sees knowledge as a spectrum where tacit and explicit knowledge are placed at opposite ends. For Polanyi, on the other hand, tacit and explicit knowledge cannot be separated; they are not distinct. They are simply the 'two sides of the same coin' (Tsoukas, 2011: 472). A sharp distinction between tacit and explicit knowledge does not exist. "Tacit thought forms an indispensable part of all knowledge" Polanyi (1962: 20)

argued, because “all knowledge is *either tacit* or *rooted in tacit knowledge*” (Polanyi, 1966: 7; original emphasis).

Polanyi’s original insights on the character and structure of knowing have given credence and inspiration to a number of authors who attempted to critically engage with his original ideas. Although it is now widely accepted that there are two types of knowledge (tacit and explicit) as different disciplines in social sciences define it (see Chapter *Two*), there are a number of points that have not been clearly clarified. As we saw in the previous Chapter (Chapter *Two*), Gourlay (2006b) identified a number of ambiguities and areas that needed further clarity in relation to the concept. One of these ambiguities concerns whether knowledge is an individual possession that comes from one’s direct experience or whether it is both an individual *and* collective (or organizational) possession. This has been termed as the ‘socialization problem’ (Collins 2010: 138) of the tacit, that is, whether and how knowledge can (or cannot) be explicated, in what situations, and under what circumstances. The problem of socialization is the problem of identifying the specific mechanisms by which collective understandings are passed on to us as individuals. In the next session, I turn to the work of Collins to identify his understanding of tacit and explicit knowledge.

3.3 HARRY COLLINS ON THE TACIT AND EXPLICIT

British sociologist, Harry Collins (2010), recently attempted to redefine tacit knowledge from the perspective of scientific knowledge-making. Collins identifies three reasons for why the concept of tacit knowledge has been misunderstood. First, he suggests that Polanyi is partially to blame for the confusion as in his *Personal Knowledge*, the argument is not clear or consistent and the tacit dimension is seen as mystical and special concept rather than an unremarkable aspect of everyday life. Second, Collins argues that tacit knowledge seems problematic or unusual because of our modern society's fixation to explicit knowledge. Third, Collins suggests that we should be more concerned with tacit *knowledge* rather than tacit *knowing*. One key problem that Collins sees in our attempts to understand tacit knowledge is what he refers to as the 'socialization problem'. As he acknowledges, "[W]e can describe the circumstances under which [tacit knowledge] is acquired, but we cannot describe or explain the mechanism… until we have solved the socialization problem" (Collins 2010: 138).

For Collins (2010: 1), "tacit knowledge is knowledge that is not explicated". His account of the tacit is influenced by his interest in computer capability. His main endeavor is to understand what aspects of knowing cannot be transformed – at least at theoretical level – into computer language. All that can be transformed – theoretically – is what we call

explicit; that which cannot be transformed is the tacit. This account is quite different to that proposed in Polanyi's work in which all knowing, including that which we call 'explicit', relies upon tacit processes and elements. For Polanyi, tacit knowing is no different to any kind of knowing, although some aspects of knowing have explicit components and some do not. As we saw previously, the subsidiaries upon which all knowing is dependent are tacit which implies that, for Polanyi, tacit knowledge includes knowledge that can be explicated. In addition, Collins treats knowledge as an objective entity available in society and culture to be analyzed. Polanyi, on the other hand, although does acknowledge a realm of cultural knowledge (Polanyi, 1962: 388-399), his account is built upon the notion of tradition to indicate a dominant vehicle of cultural continuity (Gulick, 2016). However, his prime concern is related to how knowledge arises in and is utilized by individuals. Thus, as Gulick (2016: 305) suggests, Polanyi's title of his *magnum opus* should not be 'Personal *Knowledge*' but 'Personal *Knowing*' as the attention is in the individual's processes of knowing whereas Collins' account is about the social realm of knowledge.

It is important to note here that Collins never clams that his intent is to be consistent with Polanyi's definitions and develop its implications. In *Tradition and Discovery* (an academic journal dedicated to the advancement of Polanyi's thought), a number of authors (e.g. Henry, 2011 and Lowney, 2011) have provided probing discussions of Collins' work and Collins himself responded with the following clarification:

> "I am a sociologist and my interest lies in the knowledge of groups, how knowledge spreads, how we can acquire different ways of seeing the world, and so on. I have no interest in individual creativity or insight except to say that without the idea of individual pioneers we could not have the form of life of science. Mostly, however, Polanyi's stress on personal knowledge has tended

> to mislead people about what I was up to when they found the term 'tacit knowledge' in my writings" (Collins, 2011: 38).

In Polanyi's view, what in one moment is tacit as a subsidiary awareness can become focal attention in moments of reflection, whereas for Collins the distinction between tacit and explicit is more strictly defined. One of the key arguments Collins makes in his book is the difference between *transformation* (strings) and *translation* (language). The former occurs in the physical world which is subjected to cause and effect forces whereas the latter is related to the use of language which creates meanings that are subject to translation by other human beings. Thus, language translation is different to string transformation because it always involves human interpretation and thus tacit knowledge. The world of transformation is the world of (often explicit) patterned 'stings' and, due to causality, all that appears tacit is – in theory – explicable.

More specifically, a string is any physical object with some kind of pattern inscribed on it (for example, a photograph is comprised of patterns of ink on a paper) or spoken words (patterns of compressed air). Stings, for Collins, transmit information through physical contact, in which patterns are transformed from one medium to another (for example, transformation of electric currents into patterns of pixels on a computer screen). Humans can act in this physical world like animals do through what Collins refers to as 'mimeomorphic' actions, while the physical world and human meanings can be engaged conceptually through 'polimorphic' actions. Earlier works by Collins (e.g. Collins and Kusch, 1998; Ribeiro and Collins, 2007) shed light on this distinction where a separation is established. Thus, there are two types of actions: (a) '*mimeomorphic*', which is generally carried out with the same behavior exhibited indifferently in many occasions

(e.g. typing in a number on a telephone keyboard), and (b) '*polimorphic*', which is generally executed with many different behaviors depending on the social circumstances (e.g. greeting) (Collins and Kusch, 1988).

The key and perhaps innovative aspect of Collins' work is his attention to define the 'explicit'. He argues that considerable attention and effort has been placed on defining and understanding the tacit whereas the explicit or explicable is somewhat overlooked as *obvious*. Thus, Collins reverses the order as he attempts to define the nature of the explicit whereas his characterization of the tacit is quite simple. His introduction of the term 'sting' denotes physical things that contain information but mean nothing in themselves unless they are interpreted by humans using language. He thus offers three senses of explicating tacit knowledge into explicit knowledge through three forms of transformation: *elaboration* ("a longer string affords meaning when a shorter one does not"), *transformation* ("physical transformation of strings enhances their causal effect and affordance"), and *mechanization* ("a sting is transformed into mechanical causes and effects that mimic human action") (Collins, 2010: 81). Tacit knowledge then, for Collins, is knowledge that cannot be transformed into an interpretable string (Collins, 2010: 81). In other words, *if we can represent knowledge in a string* – for instance, if we can write it down –*then it is explicit, and if we cannot, then it is tacit*.

What derives from the preceding discussion, therefore, is that Collins sets forward a dualistic world of 'physical strings' and 'linguistic meanings'. Things can change according to more or less complex patterns of causal string transformation, whereas humans can additionally use certain types of strings, words uttered or written, to create a polymorphic world of meaning. The tacit aspects of our activities such as riding bicycles, reading X-

rays, using probes, and understanding each other (these are examples that both Polanyi and Collins refer to) seem to belong to one category, that is, not being *explicable* by a person who experiences them. But for Collins, these represent the three distinct aspects of our experience of the tacit and Collins suggests that these "three kinds of tacit knowledge are indistinguishable when encountered in everyday experience" (Collins, 2010: 164).

To illustrate Collins' three types of tacit knowledge it will be useful to use an example in order to demonstrate how each type of knowledge may be involved. In the example I used before – reading a map and getting around Manchester's city center – let us assume that I have a car or a bicycle (more in line with Polanyi's and Collins' examples) to use in getting from Piccadilly station to MMU Business School. Let us also assume that I have done this before but on foot and, therefore, I have a fairly good idea of how to get from point A to point B. Also, let us say that a friend has given me some vague directions on how to get there easier using a bicycle. As I move around the streets I may choose one road that is a dead-end, so I have to go back and choose a different one but it turns out to be very busy without much space available to bikers. Then I decide to choose another street which means that I have to go around quite a bit before locating my destination. How this experience may be interpreted in Collins' structure?

Collins builds up his conceptual framework based on a 'three phase model'. The first category is termed *Relational* (or weak) Tacit Knowledge (RTK). In the example above, I had knowledge of the possible route and my friend suggested some other route but neither he/she nor I had knowledge of how exactly I could get there. An enhanced sting of information could have made my trip easier, e.g. having a GPS. But I still needed tacit

knowledge on how to get there. So, according to Collins, if I had conversed more I may have understood 'better' as, for ordinary aspects of life, tacit knowledge is sufficient. So if I was perceived as ignorant on how to get from A to B, I could (and generally people do) have gained more knowledge through socialization. Such knowledge that is gained through apprenticeships, imitation and practice is, for Collins, quite enough to get us by with most aspects of life.

His second category is what he refers to as *Somatic* (or medium) Tacit Knowledge (STK). The very practice of riding a bicycle is an example of this category. Collins asks how this knowledge is transferred from one person to another and the answer is that we learn "from demonstration, guided instruction, and personal contact with others who can ride – the modes of teaching associated with tacit knowledge. That is why we say our knowledge is tacit – we cannot 'tell it' but we can have it passed on in ways which involve close contact with those who already have it" (Collins, 2010: 99). This is quite different to what Polanyi has argued in his writings on riding a bicycle. For Polanyi socialization and imitation are not enough qualities for someone to learn how to ride but requires personal achievement based on tacit bodily feelings, i.e. embodiment. Collins here seems to devalue this subjective aspect of knowing that Polanyi had in mind. He sees the tacit as an aspect of knowledge considered as an object of thought but an object that cannot adequately be put into explicit language, programmed in a computer, or transformed into a robotic achievement, such as balancing a bike. The laws of maintaining balance have, for Collins, been scientifically established and can be transformed into the cause and effect string behavior of a machine. For this reason, embodied skills which are experienced as tacit knowledge are not truly tacit since scientific investigation and

technological innovation can render them explicit. So, for Collins, I may not be able to explicitly state how I keep my balance on a bike since I do not need to use explicit thought to control it. This is still a string-based phenomenon which appears tacit to me even if I consciously attend to or try to control what I do to maintain balance (Gulick, 2016).

Thus far, for Collins, both STK and RTK can – at least in principle – be explicable; in other words, neither of these two categories is *truly* tacit. But the third category, *Collective* (or strong) Tacit Knowledge (CTK), is. This is knowledge that an individual can acquire only by being embedded in society; "this is called 'strong', because we know of no way to describe it or to make machines that can possess or even mimic it. Strong tacit knowledge is a property of society rather than the individual" (Collins, 2010: 11). Collins (2007: 259) argues, for instance, that while riding a bike requires itself only individual knowledge (i.e. RTK and STK),

> "[N]egotiating traffic is a problem that is different in kind to balancing a bike, because it includes understanding social convention of traffic management. For example, it involves how to make eye contact with drivers at busy junctions in just the way necessary to assure a safe passage and not to invite an unwanted response" (Collins, 2007: 259).

What is expected of bike riders changes from culture to culture – it is a very different skill required to ride a bicycle in the U.K., for instance, to riding one in South East Asia – and even in one culture, expectations change over time. Riding in traffic is therefore a *polymorphic skill* in which culture, context, and thought play important roles which cannot be transmitted though explicit rules or sting causality. This is how I negotiated myself through different alternative routes in the earlier example in which my polymorphic skills of negotiating myself through the busy roads of Manchester city center coupled with my

capability of understanding the cultural and collective norms of riding a bicycle in a busy road, allowed me to get to my destination.

For Collins, therefore, society – or, the collective part of knowledge – is crucial in influencing what humans think and do as it shapes a person's life, values, and habits. I reflect upon what I have learned from other bikers and have observed about what is safe and what my abilities are in deciding what route I will take. But my decision is based on experiential individual evidence I have, rather than following or mimicking some collective ideal that dictates how I should go about in my everyday activities. Thus, what Collins' analysis is underestimating is the importance of *subjective interpretation* that is counted as personal knowledge exhibited by individuals in their day-to-day activities. If we accept the premise that riding in traffic contains an *uncodified* tacit aspect of knowledge (or what Polanyi referred to as 'ineffable' or 'unspecifiable'), then it should follow that individual experience of riding and learning a skill should too be counted upon as instances of such knowledge. Thus, the distinction between Somatic and Collective tacit knowledge could not be sustained as in both instances individual 'felt experience' of how to go about completing a task should take center stage.

Perhaps, one of the greatest problems in Collins' account of the tacit is his insistence that society "is responsible for all our collective tacit knowledge" (Collins, 2010: 170). This claim underestimates individual experience and responsibility for interpretation of evidence or action by a person who performs a particular task. Recently, Stephen Turner (2014), an American sociologist, in his book *Understanding the Tacit*, has taken a critical stance against that particular claim made by Collins. One of the key questions in Turner's account is 'what are the phenomena, structures, and processes that most adequately

provide the basis for understanding the tacit aspects of social processes and socially-based knowledge'? Turner's sociological notion of the tacit is as follows: it "refers to the taken-for-granted and the distinctive but unacknowledged habits of mind or meaning-structures that make something taken-for-granted" (Turner, 2014: 1). Turner objects to how Collins interprets tacit knowledge as 'collective' as according to Turner (2014: 65):

> "The big question is whether there is any reason to think that there has to be anything in the way of tacit knowledge that is shared or collective, that is, whether functional substitutability is enough – that each of us can get by with sufficient tacit knowledge of our own to function in a group and generate utterances that others can interpret, without sharing anything 'tacit'".

Turner is an advocate of sociological individualism. The social, for Turner, is the individual interacting in groups adjusting to each other through their use of tacit knowledge of how people react and interact. Beyond 'collectivism', Turner is also critical of Collins's main arguments. "The fact that machines can stimulate something that humans do tells us nothing about how humans do it" (Turner, 2014: 62). He further argues that "the entire discussion of string transformations is irrelevant: [Collins] gives us no reasons to believe that what people do when they communicate has anything to do with strings, string transformation, or anything like it" (Turner, 2014: 62). The key argument in Collins' account – as we saw above – is how string transformation can be interpreted. One can argue, in line with Collins, that string processes transfer information but not meaning. Another interpretation may be, however, that string transformation is a signal response to some kind of pattern recognition and that can only be made by a human who makes the interpretation. Collins (2010: 70) argues that "we have strings and we have interpreted strings" which implies that the latter interpretation is more in line with what Collins had in

mind. One problem, however, still remains: what, for Collins, are the origins and transmission of the tacit?

There is no clear answer in Collins's account. Turner, however, attempts to answers this question by suggesting that tacit knowledge is transmitted through hands-on activity or practice guided by an expert and is reproduced in the individual through attending to statements made by others and, crucially, these 'others' are individual persons and not collective objects or systems. Turner, terms this the 'different tacit backgrounds' of individuals who although may live in a shared culture or share the same traditions, their 'backgrounds' are still personal or individual. When persons draw upon their tacit knowledge in making an evaluation or assessment or taking an action, they will draw upon tacit knowledge that is not exactly the same as another individual in the same situation, because of their differences in backgrounds. Additionally, as a person acquires new experiences and thus novel tacit understandings, their worldview with their tacit knowledge can change, even if such change is minimal. Returning to the earlier example with the use of language, native speakers can understand each other not because they have the same tacit knowledge but because they have enough similarity to understand and acknowledge one another as sharing similar worldviews or traditions.

To sum up so far, for Collins, strings, whether are transformed or translated provide knowledge that can be applied in different situations depending on the action that an individual performs (e.g. *mimeomorphic* or *polymorphic*). But more crucially, the nature of a performed action is truly tacit when we engage in the social realm and perform actions that conform or otherwise within the particular societal context; and these actions can be said to be truly tacit because they cannot be fully explicated by a person who performs

them. In writing this Chapter of the PhD, for example, my Relational and Somatic tacit knowledge is subjected to string transformation and translation in which the meaning of the content of the words on the piece of paper can be represented in a string as meaning is ascribed to both individual words and their connection. However, the problem lies on whether this chapter *is* at a PhD level as I am not able to explicate how or why I have presented the arguments in this way and not another, I have used one example over another, or I have structured the Chapter in this way and not another. This, as I understand, is for Collins, the collective or social aspect of knowledge that cannot be fully articulated and cannot be created or mimicked by a machine. Such a polymorphic action is then for Collins the truly tacit aspect of all knowledge that cannot be explicated.

3.4 HOW CAN WE UNDERSTAND TACIT KNOWING?

As it was stated in the introduction of this Chapter, one of the purposes of reviewing the key authors around the concept of tacit knowledge was to reconceptualize it with a view to creating a novel framework for understanding the tacit and move the concept, its investigation, and its potentiality for analysis forward. The two major contributions to tacit knowledge, the work of Michael Polanyi and of Harry Collins should not be viewed as incommensurate accounts on the same topic, but as interpretations of different aspects of a very complex subject. Polanyi describes these various aspects more completely than Collins and his views most fully inform this section I draw from their accounts.

As we have seen so far, for Polanyi, all knowing consists of the integration of subsidiary and tacitly held particulars into a focal and articulate whole. Amongst his many examples, one quite simple to understand is the question of how we recognize a face of a friend, spouse, or acquaintance from a line-up of thousands or even millions. We can instantly recognize a familiar face but we find it very hard to describe *how* exactly we know. Polanyi (1962: 56-57) writes that "we may know a physiognomy by integrating our awareness of its particulars without being able to identify these particulars", and that, for Polanyi, is the essence of tacit knowing. Therefore, all knowing, for Polanyi, comprises of two types of awareness: the subsidiary and the focal. Focal awareness concerns the object of our attention; but all focal awareness is dependent on subsidiary awareness. We attend focally to the object of our attention while dwelling subsidiarily in a variety of clues that stand in the background and make attending to the focal target possible. The integration of these two kinds of awareness takes place in *any* act of knowing.

But what are the clues that Polanyi refers to? In specifying the nature of subsidiary awareness, Polanyi (1969: 139-140) suggests that there are two kinds of clues that give

substance to subsidiary awareness, namely, *subliminal* and *marginal*. *Subliminal* subsidiary awareness involves things that we cannot experience in themselves or directly. *Marginal* awareness involves things that we could observe in themselves if we were to focus on them directly. Although we do not attend directly either of these two kinds of clues, they both contribute to the apparent reality of the object on which my attention is focused. As he pointed out, "we may say that our awareness of both kinds of clues is subsidiary to my focal awareness of that object" (Polanyi, 1969: 140).

Returning to our previous example of navigating ourselves around a city using a geographical map, we may distinguish between the two kinds of awareness in the following way: in reading and locating ourselves in the map we use past experiences of dealing with maps and therefore we are able – without directly experiencing these in the new context – to make sense of our position and direction in the city. This is the *subliminal* subsidiary awareness in which experiences, events, and objects are not directly observed but, nevertheless, provide the basis for skilful action to take place. Our *marginal* subsidiary awareness is related to the things that we *could* observe directly but do not fix our attention on them in a focal manner. These may include the cars in the streets, pedestrian crossings, landmark buildings, and so on, that we are aware of when focusing our attention to get to the desired destination (focal target). We may therefore say that *our subsidiary awareness* – with its subliminal and marginal clues that are constantly integrated in our background understandin*g* – *constitute the structure of tacit knowing by which we can attend to our focal point*.

This integration of subsidiary particulars in our background understanding is what Polanyi referred to as 'interiorization'. All knowing involves active participation by a person who

indwells in their activities and their own body. Interiorization involves the act of observing something not as solely itself but in its relation to a more comprehensive entity which is instrumental in the service of a particular purpose. Meaning that is created by indwelling in an activity is central to performing and learning a particular skill. Says Polanyi (1966: 30):

> "Two kinds of indwelling meet here. The performer co-ordinates his moves by dwelling in them as parts of his body, while the watcher tries to correlate these moves by seeking to dwell in them from the outside. By such exploratory indwelling the pupil gets a feel of a master's skill and may learn to rival him".

Compare, for example, one who learns driving a car (or a bicycle, or indeed anything that involves a new skill) to someone who is an accomplished driver (see also Tsoukas, 2011). At the early stages of driving, the novice driver is conscious of what needs to be done and feels the impact of the pedals on his/her foot and the gear stick on the palm as he/she has not yet learned to integrate the skill of driving and the specific actions that need to undertake as a driver. In contrast, the experienced driver is unconscious of the actions by which he/she drives and thus is able to fix his/her attention on the focal target (i.e. getting to the desired destination). Polanyi (1962: 61) has formulated the general point that derives from the preceding example as follows:

> "We may say… that by the effort by which I concentrate on my chosen plane of operation I succeed in absorbing all the elements of the situation of which I might be aware in themselves, so that I become aware of them now in terms of operational results achieved through their use" (Polanyi, 1962: 61).

This means that one becomes competent in the act of driving without being aware of how he/she does it. This is because all the subsidiary particulars (subliminal and marginal)

that are integrated in the act of becoming competent driver have now lapsed into unconsciousness. For Polanyi (1962: 62), this lapse into unconsciousness:

> "[…] is accompanied by a newly acquired consciousness of the experiences in question, on the operational plane. It is misleading, therefore, to describe this as a mere result of repetition; it is a structural change achieved by a repeated mental effort aiming at the instrumentalization of certain things and actions in the service of some purpose".

This is a very important insight provided by Polanyi. What is subsidiarily known resides in the unconsciousness and new experiences expand this consciousness when concentrating on new experiences. Thus, pressing the accelerator or changing gears are particulars that are subsidiarily known while concentrating on in the act of driving; and this is context-specific. Our knowledge of gears in the context of driving is only applicable in this particular context. Tsoukas (2011) suggests, however, that such a context changes according to our role in different experiences. For example, if I were a car mechanic, gears would constitute the focus of attention, rather than being an integrated particular. "Knowledge has a recursive form", writes Tsoukas (2011: 464), because "given a certain context, we black-box – assimilate, interiorize, instrumentalize – certain things in order to concentrate – focus – on others". In this way, therefore, we are able to integrate some elements of that knowledge but, which ones exactly we use depend on the context. So if we drive a car and happen to be a mechanic and an engineer we may have acquired three different types of knowledge that taken together make us more sophisticated drivers. But, crucially, these bodies of knowledge cannot replace one another. The practical knowledge of driving a car cannot be replaced by the theoretical knowledge of combustion engines.

One of the areas that there is no clear evidence in relation to the structure of tacit knowing, is the area of new knowledge creation. If we accept that the subsidiary particulars and the focal targets are subjected to a 'silent' integration of background understandings and experiences, some enduring questions still remain:

- *How can we improve our skilful engagement in practice*?
- *What triggers the change in our subsidiary particulars and their connections to our focal targets when we are confronted with a novel experience?*
- *How exactly does the structure of tacit knowing changes in light of new experiences?*

It is important to underline that increased familiarity with the tools and relationships we engage in our dealings with the world of practice plays a significant role in the tacit integration of particulars. Repeated experiences in carrying out tasks are unconsciously linked by practitioners to form patterns of action (Klein, 1998: 31-33; in Tsoukas, 2011: 469). Patterns enable practitioners to recognize situations as typical or otherwise and thus adopt relevant courses of actions or adapt to new ones. A similar point was made by Collins who, as we saw earlier, suggests that string translation or transformation comprises of patterns which we may or may not explicate depending on the action (mimeomorphic or polymorphic) we are involved in. But, Collins too, does not address how we recognize and adapt to new situations.

As we saw in the previous chapter (Chapter *Two*), patterns of action are also an essential and central part of organizational routines (Feldman and Pentland, 2003; Pentland and Feldman, 2008). These patterns are enacted by organizational members through their actions which in turn produce outcomes and, consequently, new ideas and the

relationship between these elements produces change (Feldman, 2000). What is, however, missing from these accounts of routines and their relationship to change (either as a change in routines themselves or, more broadly, a change in organizational practices of routines) is the source or the triggering mechanism that is responsible for this change to occur. The answer to the aforementioned questions and concerns then rests on terms such as 'reflection', 'breakdowns', and 'mindfulness' which I now turn in more detail.

3.4.1. Reflection, Breakdowns, and Mindfulness

The literature on organization and management studies has placed attention on two different forms of reflection: reflection-*on*-action and reflection-*in*-action. The former is related to the concept of 'deliberate reflection' (Sandberg and Tsoukas, 2011; Tsoukas, 2011; Yanow and Tsoukas, 2009); the latter is more closely linked to the phenomenon of 'mindfulness' (Jordan et al 2009; Langer, 1989; Levinthal and Rerup, 2006; Weick and Sutcliffe, 2006, 2007).

Deliberate reflection occurs when the results of action undertaken by practitioners do not meet their tacit expectations with regards to the situation in which they are involved; in deliberate reflection, what was previously subsidiarily known now becomes the focal point of attention and deliberation. The literature on organization and management studies only recently started exploring instances in which deliberate reflection may come to the fore as a result of our practical engagement. Recent writings have conceptualized these instances as 'disruptions', 'accidents', 'surprises', 'disharmonies', or generally speaking, '*breakdowns*' in practical activity and suggest that they play a key role in amending or re-orientating our understandings in the face of unfamiliar experiences so as to create novel vistas of how to proceed in practical activity [see for example the works of Austin et al

(2012); Cornelissen (2012); Garud et al (2011); Jordan (2010); Sandberg and Tsoukas (2011); Shotter and Tsoukas (2014); Zundel and Kokkalis (2010)].

In a recently published article, for example, Shotter and Tsoukas (2014: 380) provide a useful illustration in order to demonstrate how disruptions (or breakdowns) affect the structure of tacit knowing. A junior female doctor (named Shaleni) working as an anaesthesiologist in a State-owned South African hospital saw a senior registrar using drugs illegally whilst being on duty under the assumption that the drugs were being used for patients in theatre. Shotter and Tsoukas (2014: 385) describe the disruptive powers of such encounter in the following way:

> "The disruption encountered on this occasion brought Shaleni's medical practice into focus. What was hitherto implicitly manifested in her practice (e.g. a doctor should act in a way that does not put the health of his/her patients in jeopardy) is now explicitly focused upon. However, articulating her response does not mean that she converts her subsidiary awareness into focal awareness, like, for example, one converting water into steam. It rather means that aspects of her 'inarticulate background' are brought into awareness when probed by a disruption. The latter creates a new background, which makes it possible for aspects of the old (inarticulate) background to be articulated. [I]n articulating what was implicit in her practice, she gives it a particular shape, prompted by the particular circumstances she has found herself in".

When a practitioner is absorbed in a particular practice, subsidiary awareness remains hidden in the background of inarticulate experiences. However, *it is only when a practitioner is faced with a challenging or difficult situation that shakes his/her tacit expectations of that situation that subsidiary awareness becomes now the focal point of attention, deliberation, and reflection*. What had been a transparent, deliberative practice now demands an explicit attention. Through this shifting in attention practitioners can re-

connect, re-*orient* and re-*view* the situation they are in, in a different way. Thus, new knowledge comes about when our previously held tacit understandings (our subsidiary particulars) are re-punctuated (articulated) through disruptions, accidents and surprises. What in one instance appears as routine practice (supplying medicines to patients to improve their health), it may now be re-punctuated and articulated in a different outcome. The concept of 'breakdown' has been explored variously in relation to the practice of strategy, the practice of theorizing, knowledge management, reflection, and so on (Chia and Holt, 2006; Jordan, 2010; Patriotta, 2004; Tsoukas, 2011; Yanow and Tsoukas, 2009; Zundel and Kokkalis, 2010). One of the most important writers in this area has been Haridimos Tsoukas (and his colleagues) (Dionysiou and Tsoukas, 2013; Tsoukas, 2003, 2011; Sandberg and Tsoukas, 2011; Yanow and Tsoukas, 2009) who has conceptualized breakdowns as the triggering mechanism which is responsible for changing or amending practical activity in some way (whether major or minor). Breakdowns draw on discontinuities in organizational activity and point to the process whereby order is disrupted and eventually recomposed within organizations. Breakdowns call into question actors habitual ways of doing and acting thereby pointing to patterns of routinization underlying the smooth functioning of human activity (Chia and Holt, 2006). By disrupting the ongoing activity of organizational actors, breakdowns disclose the content of intentionality of organizational knowledge (Patriotta, 2004). To be sure, breakdowns are accidental, unexpected, related to the performance and the reliability of a system or an action and they can be more or less serious, local, or systemic. They express discontinuities, mismatches, disjunctions, seizures between knowledge and experience, representations and practices, and between the obvious and the concealed. Breakdowns

provide a way of voicing a taken-for-granted background and have the same function of "noise in a world of silence" (Patriotta, 2004: 8).

In organizational life, more often than not, actors are absorbed in coping with business as usual (Chia and Holt, 2006; Zundel and Kokkalis, 2010). The content and context of the performed task is transparent and knowledge is functioning in an unreflective manner. However, when disruptions occur, the coherence of the task is called into question because the relationship between action and goals, activity and context, has been disturbed (Chia and Holt, 2006; Tsoukas, 2011; Zundel and Kokkalis, 2010). Consequently, the obviousness of daily activities and routines becomes problematic since, in these situations, the ongoing flow of action and understanding has been interrupted. Organizational actors need to restore normality and begin to explicitly interact with the tacit background against which knowledge is used. According to Tsoukas (2011), breakdowns in practice may range from a mere 'malfunction', to a 'temporary breakdown, to a 'total breakdown'. Each of these types elicits a different improvisation response from the part the actor ranging from 'non-deliberate' (mere re-adjustment), to 'deliberate', to 'thematic' (explicitly intentional). Particularly in the latter two types, the individual is forced to deliberate and engage in *analytic reflection* which is required to re-assess and re-evaluate a perplexing situation.

When a breakdown occurs, therefore, tacit knowing becomes disjointed because the integration of subsidiary particulars and focal targets is no longer possible. Practical knowledge is disentangled and de-situated from its context of use and has to be restored for action to continue. In this regard, breakdowns can potentially provide a window through which it is possible to access organizational reality as actors are required to pay

deliberate attention to the tasks that have been disrupted in the context of performance. To sum up, breakdowns do not destroy organizations and their routines; instead they help us to understand how and why certain aspects of knowledge have become tacit. Breakdowns lead us to further understand organizational practices that have been designed to maintain stability because they have the capacity to take us back in time and space and assess how tacit knowing has been developed, maintained and changed in different situations.

Breakdowns are thus closely connected to reflection. As we have seen in the previous Chapter (Chapter *Two*), moments of reflection are, in turn, linked to dialogical interactions which, according to Tsoukas (2009), provide the means for making new distinctions and arise from participants engaging with an organizational task. Therefore, even though skilled performance contains an ineffable element that is difficult to articulate, it nonetheless can be 'talked about' because by "dialogically reminding ourselves of it, we notice certain important features which had hitherto escaped our attention and can now be seen in a new context" (Tsoukas, 2011: 472). As a consequence, we are able to relate to our circumstances in novel ways and, therefore, 'see' new ways forward.

Think, for instance, of any of the previous examples, whether it is about reading maps, or driving cars or riding bicycles. As we integrate our subsidiary particulars in order to attend to our focal target (reaching our destination), we are immersed in the act of knowing and connect subsidiary particulars in a specific way. If we cannot arrive effectively at our destination (unintended outcome), a breakdown has occurred (whether we are faced with too much traffic or arrive at a dead-end, or even if our car or bicycle is damaged in some way) which forces us back to review our situation through deliberate reflection. This is the

time where we ask ourselves or others: ‘what should I do now?’, ‘how should I do it differently?’, ‘how can I reach at my destination more effectively?’ In these situations we are reviewing the situation in a new light, from a different perspective, and we are able to create novel connections on how to effectively carry out our task.

Such ‘re-punctuation’ (articulation) of the distinctions underlying the practical activities in which we are involved in creates new connections amongst items that were previously unnoticed and unconnected. Drawing attention to each other’s attention by instructive forms of talk (for example ‘look at this again’, ‘have you considered this in that way’, ‘try this’, ‘imagine this’, and so on) (Tsoukas, 2011), a space is created in which our situation can be viewed from a different angle. And this is the essence of amending and creating new ‘silent’ integrations in our subsidiary awareness: through dialogue “we notice certain important features which had hitherto escaped our attention and can now be seen in a new context” (Tsoukas, 2011: 472).

Importantly, critical reflection shares similarities with the concept of mindfulness in organizations. The notion of mindfulness was developed by Langer (1989) and was introduced into organization studies by Weick and colleagues (Weick et al 1999; Weick and Sutcliffe 2006) in their research on high reliability organizations. Langer (1989: 138-159) argued that individuals demonstrate mindfulness in three ways: (a) they actively differentiate and refine existing experiences through categories and distinctions (Langer, 1989: 138); (b) create new, discontinuous categories out of on-going events and experiences (Langer, 1989: 157); and (c) appreciate more nuanced contexts, including the use of adaptive, alternative ways to operate in them (Langer, 1989: 159).

Jordan et al (2009) argue that increased mindfulness, that is, a state of active awareness which is characterized by a continuous creation and refinement of categories, openness to novel insights, and willingness to view things from different angles, is a qualitative disposition of individuals when enacting organizational practices. Mindfulness is particularly significant concept in understanding the structure of the tacit as it characterizes an individual's response to unexpected events in their capacity to engage in a range of flexible behaviors that effectively respond to changing stimuli (Weick et al 1999; Levinthal and Rerup, 2006). Mindfulness is also concerned with the ability of actors to read and anticipate signs that may impact negatively or inappropriately on actions and practices. In other words, mindfulness is the ability (or capability) of actors to draw high *quality* attention to contexts and respond appropriately to unanticipated cues or signals from one's contexts. In previous examples, such as driving a car or riding a bicycle or reading maps and speaking a foreign language, mindfulness is an increased awareness and high quality attention to focal targets (or to outcomes) that characterize the *quality* of the process. This is, perhaps, what distinguishes a proficient driver from a novice one or a proficient reader of maps to a less proficient one.

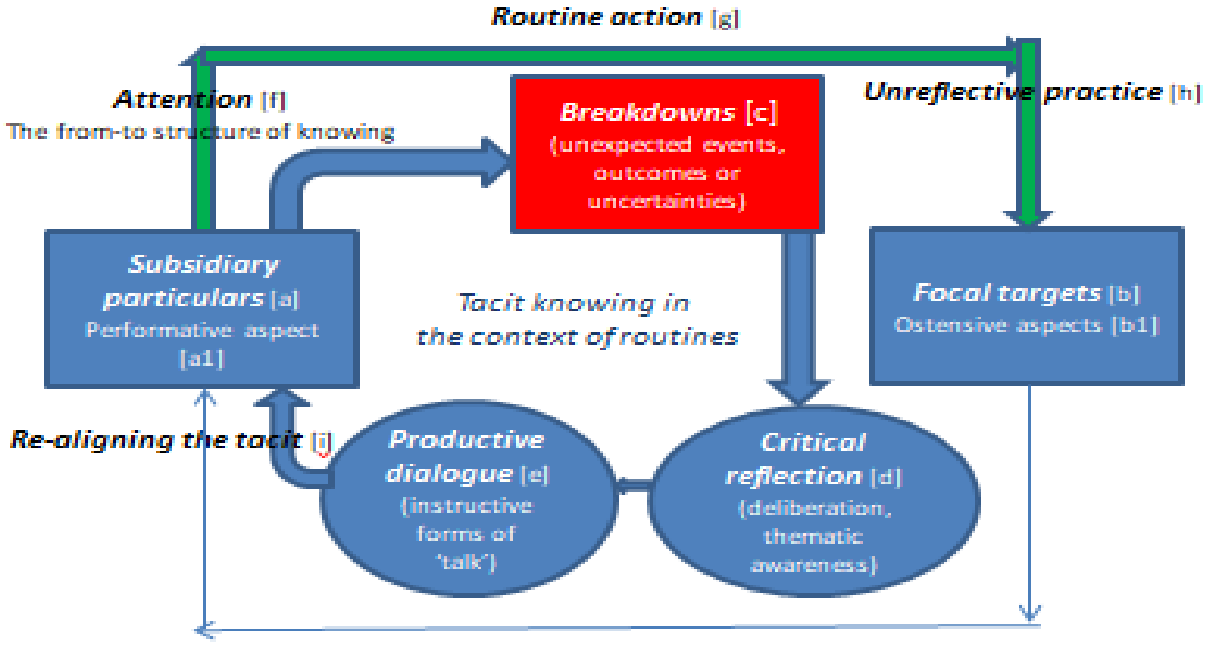
In relation to routines, too, the concept of mindfulness plays a central role in, for example, how two repetitions can draw something new in the act of repetition itself (Deleuze, 2004: 97) where novelty comes out of the mundane and the repetitive. This means that novel events are those that we do not expect and they disrupt our ongoing organizational activity (Bosma et al, 2016; Feldman et al 2016). Bosma et al (2016: 18) argues that the 'unexpected' serves as a 'novel stimulus' that provides 'novel responses' including ones that are unconventional, improbable and 'wild' in nature. These responses are essential

for organizational survival and as such are fundamentally responsible for new and radical learning.

3.5 RE-CONCEPTUALIZING TACIT KNOWLEDGE IN THE CONTEXT OF ORGANIZATIONAL ROUTINES

Figure 3.2 is an attempt to depict visually the key arguments and insights from the preceding discussion and thus synthesize the key concepts as they have emerged so far.

FIGURE 3.2 TACIT KNOWING IN THE CONTEXT OF ORGANIZATIONAL ROUTINES



As we have seen, the structure of tacit knowing consists of three complementary and mutually exclusive forms of comprehension: *subsidiary particulars* [a], *focal targets* [b], and *a person* who brings the two together in the act of knowing in practice (see also Figure 3.1.) Such a process is *silent* as the person internalizes and dwells in the particulars in order to *attend* to [f] focal targets. The act of knowing builds on our background understandings of our experiences in which we have previously been involved in. On occasions, however, this largely *unreflective* [h] and r*outine*-like [g] action *breaks down* [c] because of unexpected outcomes, uncertainties, or events and, therefore, an individual's habitual ways of doing and acting become the issue of *critical reflection* [d]. In order to restore the normality of action, the individual engages in *productive dialogue* [e] with others actors who have experience in performing the same (or a similar) routine. Thus, what was previously tacit and unreflective, that is, the silent integration of subsidiary particulars to focal targets, has to *be re-aligned* [i] for practical activity to move forward.

In a parallel process, the reviewed literature on routines distinguishes between two aspects/parts of routines, namely, the *performative* [a1] and the *ostensive* [b1]. The former comprises of specific individual actions (processes, skills, practices) that take place in specific times and circumstances. The latter, which is shaped by the former, is the more abstract aspect of routines which resides at a more collective level and has been conceptualized also as the 'outcomes' or 'shared understandings' of routines. What we can notice in this diagrammatic depiction of the structure of tacit knowing is the way that it lends itself in the context of organizational routines and the process by which they are enacted. In routines, just as in the structure of tacit knowing, individuals perform particular tasks that typically belong to, or are part of, the ostensive aspect of that routine.

For example, conducting interviews (performative aspect) for a vacant position in an organization is part of the *hiring* routine (ostensive aspect) (Feldman, 2000; Feldman and Rerup, 2011) and it can be said that typically organizations are able to execute such a routine with high levels of success in an unreflective manner. However, it cannot be said that interviewing takes place always in the same way. Many times, the process of interviewing can breakdown because, for instance, candidates' CVs have not been matching the position adequately, or because the 'ideal' candidate has not shown up for the interview, or even because the 'right' candidate refused the job offer, and so on. In these instances, routine performance breaks down and needs to be restored before the execution of the routine takes place.

The ostensive aspect of routines is responsible for ensuring consistency in carrying out routines as well as variation that can be observed in them. In turn, the performative aspect creates, sustains, and modifies the ostensive aspect in practice in the same way

that “speaking creates, maintains, and alters a language” (Feldman and Pentland, 2003: 107). The ostensive aspect both constrains and enables participants in carrying out routines and serve as a guide to routines performance. This is the collective level of routines which comprises of shared individual understandings of what a routine *should* entail. The recursive relationship between the performative and the ostensive aspects enables for a deeper understanding of the variations observed in routines and the interplay between stability and change.

The proposed framework of tacit knowing in relation to organizational routines poses a number of implications for researching the dynamic nature of knowing within the context of organizational routines. The silent, unspecifiable or ineffable clues that give rise to the subsidiary awareness cannot be focused upon in isolation as they contribute to the whole of meaning-creation by a person who performs a particular action. We are ‘focally ignorant’ of these particulars and on how or why they contribute to a skilful accomplishment. Thus, although we may be able to execute a task skilfully, we normally cannot identify the particulars of these comprehensive achievements. Therefore, we should stop trying to locate these integrations in the minds of individuals as this is an impossible task. Rather, we should concentrate on individual performance and how this is manifested in the everyday practices of individuals in organized contexts.

This is because all knowing is manifested in actions; it is in this sense an *intentional* activity that contains a purpose, that is, a focal target. Just as in riding a bicycle the intention is (or may be) to arrive at a desired destination, so is the case in interviewing which is taking place with the intention of hiring an individual for a vacant position. As in the earlier example of Shaleni’s medical practice, our previously ‘inarticulate background’,

probed by a disruption, is now brought into focal awareness of explicit attention. It is only when such a shifting in attention takes place that a practitioner can review and reconnect subsidiary particulars to create new meanings.

A person engaging in routines performs particular tasks by connecting silently subsidiary particulars to focal targets. This enables him/her to execute the routine effectively by attending to a focal target, that is, *with* intention, for the purpose of achieving an *outcome*. Interviewing, for example, is itself a performative routine where the outcome may vary according to particular circumstances. It is quite one thing to interview a candidate for a nanny's position and quite another to interview a candidate for a Vice President's position in an organization. Thus, the performative routine of interviewing would be viewed and perceived in a different way that largely depends on the context in which the individual performs the routine.

There are moments, however, that the smooth performance of a routine would break down because of unintended or unexpected outcomes or novel and unanticipated events (Weick 1979) and uncertainties (Kaplan and Orlikowski, 2013). In these moments, what was previously done in an unobtrusive manner, it is no longer possible and thus the individual involved is forced to step back (reflect) from the practice he/she participates and re-assess the situation in order to get the action done. This is a typical case when we look at performative routines. Breakdowns to performative aspects of routines are indeed the norm, not the exception. As Feldman (2000: 625) noted, routines involve actors "reflecting on what they are doing, and doing different things (or doing the same things differently) as a result of the reflection". Even though variations (whether major or minor) in performance are important, changes in the ostensive aspects of routines (in focal

targets), that is, changes in the outcomes and shared understandings of routines themselves, are rather critical. When participants in routines are orientated towards the future, they are likely to reflect on the routine beyond the immediate performance (Howard-Grenville, 2005) and they might decide "to alter what they do in the future iterations of the routine" (Pentland and Feldman, 2005: 809). This may result in changes to the routine's pattern over time.

In these moments, therefore, in moments where breakdowns occur in the context of organizational routines, those who participate in a practice and those who may be researching it become focally aware of the novel connections that may now become available for analysis and discussion. Through dialogue, conversation and observation, the researcher and the researched can create new meanings if they *discuss* the skilled performances in which we are involved. This means that we should not so much need to be concerned with 'operationalizing' tacit knowledge (see, for example, Ambrosini and Bowman, 2001, Sternberg et al, 2000) because this simply may not be possible. Instead, in line with Tsoukas' (2011) suggestion, we need to find new ways of talking and interacting, distinguishing and connecting. "New knowledge comes about not when the tacit is converted to explicit, but when tacit knowledge is re-punctuated (articulated) through dialogical interaction" (Tsoukas, 2011: 473). More recently, Dionysiou and Tsoukas (2013: 200) stress the importance of focusing on breakdowns as they offer important methodological opportunities for the study of routines, since "during such moments participants are likely to engage mindfully or intelligently in the joint action at hand, thus enabling researchers to capture the surfacing of meanings and understandings".

In the literature on routines, there are empirical descriptions of discussion/'talk' that appear to be of critical importance when participants enact certain routines. For example, interviewing candidates is part of the 'hiring routine' Feldman (2000), discussion and talk in the operating room is part of the 'cardiac surgery' routine (Edmondson et al, 2001), and discussion and talk with customers and between marketing and sales staff are part of the 'pricing' routine (Zbaracki and Bergen, 2010). Although these forms of discussion and talk are part of enacting the routine, they are very similar to non-verbal actions that most studies concentrate on. Recently, Dittrich et al (2016) described how actors *talked about* routines particularly in relation to how routines arise, become disrupted, or change. Such instances can be interpreted as a form of 'collective reflection' in which the participants collectively work out how to set up new or modify existing routines.

In the next Chapter (Chapter *Four*) of this thesis I delve deeper into the methodological issues related to researching tacit knowledge in the context of organizational routines and describe more fully the ways that such an attempt can take place in organizational settings.

3.6 CHAPTER SUMMARY

This Chapter has provided an in-depth review of the concept of tacit knowing by building primarily upon the works of M. Polanyi and H. Collins. After examining these contributors, a novel theoretical framework of tacit knowing is proposed which may be useful in allowing for a clearer perspective on how the tacit may be accessed, analyzed, and researched in organizational settings. In brief, it has been argued that all knowing consists of the integration of subsidiary particulars into a focal target by a person who links the two together. Knowing has a 'from-to' structure: the particulars bear on the focus to which I attend from them. These integrations are tacit, 'silent', and inarticulate. However, there are moments that these integrations breakdown because of a disruption, accident, or

surprise in our practical engagements. In these moments, what was hitherto subsidiarily known, it now becomes the focal point of attention and deliberation.

Bearing on this novel conceptualization of the tacit, the next step involved its relevance and connection in the context of organizational routines. As they are currently conceptualized, routines consist of ostensive (what the routine should entail) and performative (how the routine is actually carried out) aspects and their recursive relationship enables a deeper understanding of variation and the interplay between stability and change. Crucially, however, routines are performed by humans who constantly connect subsidiary particulars to focal targets with the intention to perform specific organizational outcomes. If these outcomes are not achieved or unanticipated events take place, routines breakdown (in a major or minor way) and the individual involved is forced to step back (reflect) and re-assess the situation anew. Through dialogical interaction and discussion with other organizational participants we are able to notice novel important features that had previously escaped our attention and can now be viewed in a new context.

CHAPTER *FOUR*: METHODOLOGY AND RESEARCH METHODS

4.1 INTRODUCTION

In this Chapter (Chapter *Four*), I turn my attention to the third research question for this thesis: *How can tacit knowing be empirically investigated in the context of organizational routines*? In organization and management studies, very few attempts have been made to practically investigate this question. This, it has been argued, is because of the different ontological and epistemological assumptions that researchers of knowledge bring with them in their investigations (Swart, 2011). This means that our methodologies and methods for investigating tacit knowledge may not be suited for the task in question. A more interpretivist, or what Tsoukas (2011) refers to as 'phenomenological' approach to

the tacit, may be more suitable and, indeed, more appropriate in researching knowing in organizational settings. The framework that I have developed in the previous Chapter (Chapter *Three,* Figure 3.2 on page 108) may then be ***a*** way forward in our investigations of tacit knowing in organizations. This is because the novel conceptualization of the tacit and its related areas of activity bear three important methodological implications:

- First, even if tacit knowing comprises of a silent, unspecifiable, and ineffable process for a person who participates in a particular activity (e.g. from riding a bicycle to reading and using a map to conducting interviews for a vacant organizational position), the actions and meanings which derive from this process can be *manifested* and thus become visible in his/her skilful accomplishments. For example, while a skilful bike rider or an experienced HR manager may find difficult to describe or explain how he/she performs their particular practice, the skilful performance of that practice is only exemplified in the act of bike riding or interviewing.

- Second, if we accept that all knowing is manifested in skilful action, then it implies that tacit knowing contains *intentionality*, that is, a focal target or an outcome. I have argued that this focal target may also be viewed from the routines perspective as the ostensive part of a routine. New knowledge comes about when the integration of subsidiary particulars to focal targets is disrupted in some way and need to be restored for activity to move forward. In this way, we create new meanings and thus re-connect our subsidiary particulars in novel ways.

- Third, it is because of these moments of breakdowns that we become reflective of our actions and open up to analysis and dialogue – whether we are practitioners

> or researchers that investigate actions and practices in organized settings. Without disruptions in activity we remain absorbed performers in that activity and carry it out without the need to alter our actions (Sandberg and Tsoukas 2011). Thus, the structure of routines, that is, the recursive relation between performative and ostensive aspects in which participants are involved with the purpose of achieving a particular outcome, may change as a result of a breakdown in the enactment of such as routine.

These implications play a significant role in the way that research on tacit knowing should be carried out in organized settings. Rather than looking to identify the cognitive or mental structures that alter an individual's learning processes, we should be more concerned with the actions in which these individuals participate and how they accomplish their everyday tasks. In so doing, researchers can come closer to the phenomenon under study in moments where understandings are disturbed and knowledge claims do not sufficiently capture the real-life goings-on. In this Chapter, therefore, my intention is to explain how and why a more interpretivist methodology can shed light on what has been referred to as the black-box of knowing in organizational settings.

My aim is to describe and explain a methodological approach that can allow for tacit knowing to be adequately and appropriately researched. This requires a subjectivist ontology in which 'reality' is understood as emerging in and out of interactions with humans and is manifested in routines and improvisations of these humans in a context of action and interpretation (Cunliffe, 2011). It also requires an epistemology in which the purpose of the researcher is to understand how social reality is created where reflexivity is at the core of the inquiry (for both the researcher and the researched) (Charreire Petit

and Huault, 2008; Cunliffe, 2011; Lincoln et al, 2011). Such a philosophical approach to the study of tacit knowing requires a methodology that is ethnographic, inductive, and dialogic in nature and methods such as participative inquiry, storytelling, and unstructured interviews to elicit the processes by which humans act and the ways they understand such acting in organizational settings.

The structure of this Chapter is as follows. In the next section (4.2) I begin to explore the ontological and epistemological assumptions that underpin the investigation of the tacit. This is followed by a discussion of the methodology used in this thesis (4.3) before I proceed with a more specific discussion on ethnographic research as a tool to understand individual experiences based on unstructured interviewing. The Chapter concludes by offering a detailed discussion on how the data have been analyzed and interpreted (4.5).

4.2 PHILOSOPHIES UNDERPINNING (ORGANIZATIONAL) RESEARCH

Two important works in organizational research and the wider social sciences, those of Burrell and Morgan (1979) and Morgan and Smircich (1980), had a significant impact on the philosophical choices researchers make when investigate organizational phenomena. These authors largely argued that organizational researchers need to figure out and be sensitive to the choices about ontology (the nature of reality) and epistemology (how do we know about the phenomena) before deciding on the overall methodology and research methods that can be used to investigate such phenomena. This is because our philosophical considerations have a profound impact not only on the knowledge claims we, as researchers, make but also on the knowledge claims of those we investigate. These assumptions, in turn, have an impact on the overall research design that drives and guides any empirical investigation.

In the following Table (Table 4.1) I have attempted to synthesize five areas that are significant in any (and, of course, in my) investigation. Distinguishing between subjective

(interpretive) and objective (positivism and realism) paradigms, I argue that an investigation of tacit knowledge requires a subjective ontology coupled with a constructivist/interpretivist epistemology. This means that the role of the researcher is a reflective one and the methodologies appropriate for investigating the tacit should be more inductive, ethnographic, and phenomenological in nature. This, in turn, means that the research methods that may be more appropriate in that investigation should be based on storytelling and narrative approaches; on unstructured interviews and potentially, unstructured observations. This may offer a solid research approach that may provide novel vantage points from which tacit knowledge may be accessed, researched, understood, and articulated in organizational settings. In what follows I expand on these claims starting from the ontological and epistemological underpinnings.

TABLE 4.1 CONTRASTING INTERPRETIVE (SUBJECTIVE) AND NORMATIVE (OBJECTIVE) PARADIGMS IN RESEARCHING (TACIT) KNOWLEDGE

Paradigm	SUBJECTIVE ⟷ OBJECTIVE	
Ontological assumptions of research methodology	Multiple local and specific 'constructed' realities Socially constructed realities, emerging, objectified and sometimes contested in the routines and improvisations of people. Context is human action and interpretation.	***Positivism*** Reality is real and apprehensible Reality as concrete structures and behavioral patterns, subject to rules and laws. Structural integration or disintegration ***Realism*** Reality is 'real' but only imperfectly and probabilistically apprehensible Reality as process: interrelated actions, elements, structures, and systems. Generalizable or context-dependent.
Epistemology (how we know about the phenomena)	**INTERPRETIVISM** Created findings To understand how social reality is created	**NORMATIVE (POSITIVISM and REALISM)** ***Positivism*** Findings true To construct a positivistic science ***Realism*** Findings probably true

		To study systems, process and change
Conception of the Researcher's Role	Commitment to the system under study (speaking from the inside) Reflexivity regarding the status of the tools and the researcher	Exteriorized position (speaking from the outside) Limitation of contamination bias, distancing from methodological tools
Methodology (techniques used to investigate reality)	Ethnographic, existential phenomenology, hermeneutic. Constructionism and constructivism. Dialogic. Inductive.	Positivism, empiricism, functionalism, nomothetic science, statistical or structural connections. A-temporal laws and validity criteria. Rational choice models. Deductive approaches.
Research Methods	Narrative and discourse analysis, Storytelling, grounded theory, content analysis, poetry, participative inquiry, Ethnography Autobiography. Unstructured interviews	Surveys, observation, triangulations, experimentations, structured/coded interviews, case studies, focus groups, grounded theory, action research.

Source: Adapted from *Burrell and Morgan (1979); Charreire Petit and Huault (2008); Cunliffe (2011); Lincoln et al (2011); Morgan and Smircich (1980); Sanders (1982); Thompson and Perry (2004)*

4.2.1 Ontology

The term ontology derives from two Greek words, namely *-on(to)* and *-logos* with the former referring to 'being' or 'existence' and the latter to discourse, theory or science. Thus, ontology is the 'theory of being' or, as Duberley *et al* (2012) suggest, a branch of philosophy that deals with the essence of phenomena and the nature of their existence. Thus, ontological questions concern the existence of phenomena in a real or illusionary state. In other words, ontology deals with whether phenomena under investigation exist independently of our knowledge of them.

Two contrasting and conflicting approaches have emerged in the social sciences that shed light on this problematic: objectivism and subjectivism. This distinction appears in a number of publications and initiated debates about (tacit) knowledge and its role in organizations. Publications that draw their approach from economics, for example, are largely based on a positivistic understanding whereas those authors who utilize interpretivist philosophies tend to emphasize the processual and contextual account of

knowledge. More specifically, how knowledge is understood and conceptualized is a good indication as to whether the approach has drawn upon objectivist or subjectivist ontological underpinnings.

In an empirical study of the most influential publications on knowledge management, Nonaka and Peltokorpi (2006) found that there is a large divide between objectivist and subjectivist ontological accounts in the way that knowledge, humans, and social entities (such as organizations) are conceptualized. In relation to knowledge, especially, there are two important differences concerning: (a) the nature of knowledge and the distinction between its tacit and explicit parts, and (b) the question whether knowledge is individual, social or collective entity, and whether it exists in organizations, and in what form. In relation to the nature of knowledge, a number of scholars (drawing primarily on economics) divide knowledge into tacit and explicit or knowledge-how (tacit) and knowing-that (explicit) (e.g. Conner and Prahalad, 1996; Kogut and Zander, 1992; Leonard and Sensiper, 1998). These authors largely argue that tacit knowledge is hard to articulate and transfer whereas explicit knowledge is relatively easy to articulate, codify, transfer and store in organizational settings. These taxonomies show that knowledge contains both objective and subjective dimensions. Drawing on a more interpretivist tradition, other authors have avoided to sharply divide these two forms of knowledge. Nonaka (1994) and his colleagues (Nonaka and Takeuchi, 1995; Nonaka and Toyama, 2003; Nonaka and von Krogh, 2009), for instance, are sensitive in their accounts of knowledge and suggest that tacit and explicit knowledge should not be viewed as exclusive but complementary. Other authors, drawing deeper in the interpretivist ontology, argue that knowledge categorization is impossible because of its holistic and processual nature (e.g.

Brown and Duguid, 1991; 2001; Tsoukas, 1996; 2003; Gourlay 2006a, Tsoukas and Vladimirou, 2001; Peters et al, 2011). These authors largely suggest that a separation between tacit and explicit knowledge is erroneous because knowledge is closely related to action and practice which, in effect, means that knowing and doing are inseparable. This is also in line with Polanyi's (1962; 1966) understanding that all knowledge is either tacit or rooted in tacit knowledge.

In addition to the ongoing disagreements about the nature of knowledge, there is also discrepancy as to whether knowledge is an individual procession or a collective entity. Early publications in organization and management studies suggest that knowledge exists in the heads of individuals and is ultimately attached to the knower (e.g. Cohen and Levinthal, 1990; Davenport et al, 1998). More recent publications regard tacit knowledge as personal or private endeavor which should be treated only at an individual level (Ambrosini and Bowman, 2001; Boiral, 2002). Other authors treat it at a collective or organizational level by linking it to resources and capabilities (Nelson and Winter, 1982; Spender, 1996; Leonard and Sensiper, 1998). Others yet argue that tacit knowledge is belongs to a collective realm (Collins, 2010; Ribeiro and Collins, 2007).

The discussion in Chapter *Three* of this thesis has shed light onto my ontological stance regarding the nature of knowledge and the distinction between tacit and explicit *and* whether knowledge is an individual possession or a collective entity. Regarding the former, and following Polanyi and Tsoukas, I have suggested that there is no distinction between tacit and explicit knowledge and, perhaps more importantly, knowledge (whether unspoken or not) is subjected to countless (subsidiary) integrations that individuals engage in their day-to-day activities. This means that rather than viewing tacit and explicit

as separate forms of knowing, they should be viewed as mutually constitutive in practice or, as Tsoukas (2005) suggested, as the two sides of the same coin. Regarding the latter, that is, whether knowledge is an individual or a collective entity, I have argued that in order to know something, we need to engage in practices, and practices are social phenomena.

Feldman and Orlikowski (2011: 1241-1243) suggest that research that is sensitive to practice theory and its main features shares some common themes. First, situated actions are consequential in the production of social life, that is, human agency is at the core of any engaged activity that collectively produces practices; second, dualisms such as mind vs. body, cognition vs. action, objective vs. subjective, are rejected as a way of theorizing. Third, relations are mutually constitutive in that all actions and therefore all practices are related with one another in the production of meaningful systems. It then follows that practices are the central locus of organizing and it is through situated and recurring activities that organizational consequences are produced and become reinforced or change over time. Thus, everyday activity becomes the object of analysis which requires deep engagement in the field, observing, and interacting with practitioners in action (Feldman and Orlikowski, 2011).

4.2.2 Epistemology

Like the term ontology, epistemology, too, derives from two Greek words: -*episteme* which means 'knowledge' or 'science' and -*logos* which refers to 'knowledge', 'information', 'theory' or 'account' (Duberley et al 2012). This demonstrates how epistemology is usually understood as being concerned with knowledge *about* knowledge. In other words, epistemology is the study of the criteria by which we can know

what does and does not constitute warranted, or scientific knowledge (Duberley et al 2012: 16). The question of epistemology is central to any investigation of social sciences and, of course, organization and management studies. The question of '*how do we know what we know?'* is not only related to the ways that knowledge is acquired by social actors but is also related to the ways that researchers acquire knowledge *about* the knowledge of social actors. This is not an easy task at all especially when the researcher investigates the multifaceted and socially complex nature of (tacit) knowledge. Thus, epistemological questions are of utmost importance when dealing with humans who have diverse experiences, backgrounds, and cultures in socially organized settings.

Broadly speaking, there are three dominant epistemological approaches in the social sciences: positivism, (critical) realism, and constructivism. Positivism is a dominant branch of philosophy of the social (and the natural) sciences and suggests that the only legitimate source of knowledge are sense data through which reality is experienced (Clegg, 2008). The role of the researcher is to uncover 'laws' or to test whether theories are true using the hypothetico-deductive method. Subjects (e.g. humans) and objects (e.g. organizations) are treated as two separate and independent entities and their relationship is one of causality. Given the dominance of positivism in the natural sciences, a number of researchers have tried to emulate its success in organization and management studies. Works rooted mainly in economics conceptualize knowledge as an objective asset in the Resource-based View of the firm (Barney, 1991), Capabilities (Teece et al, 1997), and the Knowledge-based View of the Firm (Grant, 1996). As Nonaka and Peltokorpi (2006) argue, these studies separate knowledge from other organizational resources in that it is objectified, immobilized, and functionalized in order to present it as

another strategic asset. Tacit knowledge, in turn, either seems to have a linear impact on organizational performance or is simply left as a 'black box'.

Research that fails to open the 'black box' – whether it is concerned with (dynamic) capabilities, (organizational) routines, or (tacit) knowledge – tends to treat these as static and unchanging. Work on routines, for example, argue for a departure from such an approach if we are to obtain better insights on the dynamics of routines within situated organizational practices (Feldman and Pentland, 2008; Pentland et al, 2011). Similarly, Parmigiani and Howard-Grenville (2011) suggest that research on capabilities and routines have remained mainly interested in the purpose and motivation of routines and capabilities and their impact on firm performance. Recently, Mciver et al (2013) argue that research on knowledge management has mainly concentrated on the relationship of knowledge management programs and initiatives and their impact on firm performance thus limiting our understanding on how knowledge work actually takes place in organizational settings. Thus, positivist-based research has only limitedly provided us with the inner parts of what and how organizations achieve (or not) positive performance.

Critical realism – a grown philosophical approach in the social sciences – can be viewed both as ontology and epistemology. On the one hand, critical realism posits a realist ontology – the existence of an external world – and, on the other hand, it holds a 'fallibilist' epistemology (Miller and Tsang, 2010: 144) in which researcher's knowledge of the world is socially produced. Critical realism distinguishes between three realms: the *real* (which consists of unobservable structures and causal powers), the *actual* (which consists of events and processes in the world), and the empirical (which consists of the experience of human beings) (Bhaskar, 1978; Fairclough, 2005). Thus, for critical realism, as Reed

(2005) points out, even if there are unobservable structures and forces in organizations, their operations can still be investigated using ethnographic and historical research (rather than quantitative methods) (Kilduff et al, 2011).

This is also relevant to the research of tacit knowledge. As it has been argued before, tacit knowledge is unobservable, hidden, and inaccessible even by those possessing it. A critical realist perspective would argue that even if one cannot observe it, he/she can still research it as it is manifested in routines, organizational structures, mechanisms, and so on. Nonaka and Toyama (2003: 3), have explicitly acknowledged the contribution of critical realism in their work in the following passage: "[we utilize] critical realism…mainly to explain the interrelation between the agents and the context, and critical realism as a methodology to explain the interaction between tacit and explicit knowledge or between the invisible and visible". Also, a number of studies that have attempted to capture and measure organizational knowledge (Berman et al, 2002; Borgatti and Carboni, 2007; Wilcox King and Zeithalm, 2003) or measure the impact of knowledge transfer between and/or across organizational settings (Cummings and Teng 2003; Inkpen and Chang, 2005; Wei et al 2011) build, either implicitly or explicitly, upon critical realist approaches.

Finally, constructivism and its related versions (e.g. social constructivism, constructionism, and interpretivism) is a branch of philosophy that, according to Crotty (1998: 42), stipulates that "all knowledge and therefore all meaningful reality as such is constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context". In other words, meaning or truth is neither subjective nor objective (as it is the case in positivism/critical realism) but socially constructed through the interaction amongst humans and their experiences.

Experiences, in turn, “do not constitute a sphere of subjective reality separate from, and in contrast to, the objective realm of the external world” (Crotty, 1998: 45). Crucially, constructivist approaches view the researcher and the researched as inseparable, co-creators of meanings and understandings and, therefore, the philosophical position of the researcher determines his/her findings. One of the early works of knowledge arguing for a constructivist approach is that of Tsoukas (1996: 13) who argued that “individuals are now seen as agents, active co-producers of their surrounding reality. How agents construe themselves and their environments become the focus of study”. According to numerous authors (Blackler, 1995; Brown and Duguid, 1991; Charreire Petit and Huault, 2008; Gherardi, 2000), the process of knowledge development is chiefly a social and cultural phenomenon, historical and indeterminate without an apparent separation between subject, object, and context.

A crucial aspect of constructivism (or constructionist) philosophies is the centrality of *practice* as the foundational core of all meaningful activity. Practice-centered approaches see the world as socially constructed by human agents and it is brought into being through everyday activity (Feldman and Orlikowski, 2011: 1241). As Feldman and Orlikowski (2011) argue, practice-centered perspectives answer the ‘why’ questions of employing such an approach as the focus remains on everyday activity as practices are understood to be the building blocks of social reality. One of the most prominent writers on practice theory, the American philosopher Theodor Schatzki (2001), view practice theory as an ontology: “The social is a field of embodied, materially interwoven practices centrally organized around shared practical understandings” (Schatzki 2001: 3).

Feldman and Orlikowski (2011: 1240-1241), however, remind us that besides being an ontology, practice theory offers two further avenues that need to be taken into consideration. The first is the *theoretical* approach to practice which, although it is concerned with everyday activity, it is also concerned with a specific *explanation* of that activity. This means that a practice-centered approach answers the 'how' question of a particular practice, such as the theoretical relationships that explain the dynamics of everyday activities, how these activities are generated, and how they operate in different contexts and in different times. Therefore, researchers who employ a practice lens are engaged with the core 'logic of practice' (Sandberg and Tsoukas, 2011) and the ways that they are produced, reinforced, and change as well as their intended or unintended consequences. The second consideration involves the *empirical* approach to practice and the centrality of people's actions to organizational outcomes. It also reflects the importance of practices in the ongoing operations of organizations. This approach answers the 'what' of a practice lens with its focus on the everyday activity of organizing in both its routine and improvised forms.

A number of scholars within organization and management studies have thus turned to practice theory in order to (re)formulate notions of knowledge commonly used in management literature. Drawing primarily on the works of Giddens (1984) and Bourdieu (1990), these scholars have understood knowing in practice as the knowledgeability that is continually enacted through ongoing action. Knowing, as Orlikowski (2002: 252) suggests "is an ongoing social accomplishment, constituted and reconstituted in everyday practice". This view of knowing as enacted is strongly evident in research on knowledge production and sharing within organizations [Bechky (2003), Brown and Duguid (1991),

Cook and Brown (1999), Gherardi (2006), Kaplan and Orlikowski (2013), Nicolini et al (2003) and Tsoukas (2005; 2009)]. What these studies have in common is the idea that knowledge is not a static or stable disposition but an ongoing and dynamic production that is recurrently enacted as actors engage in the world of practices (Feldman and Orlikowski, 2011).

In the next section I describe and explain the methodological approach of my investigation and describe the methods which have been used to understand tacit knowing and its relation to organizational routines.

4.3 RESEARCH METHODOLOGY

One of the main problems in any inquiry into tacit knowledge is the difficulty associated with its empirical investigation. This, as Gourlay (2006a) suggests, is not only because of the multifaceted and socially complex character of knowledge but also because most researchers to-date have largely concentrated in further clarifying the concept. This has meant that very few studies have attempted to empirically investigate such knowledge in organizations. However, there is a good reason for this. If one thinks back at Polanyi's (1966: 4) statement that "we know more than we can tell", a number of authors have argued that tacit knowledge is *unconscious* (Easterby-Smith and Lyles, 2003: 8) or even *ineffable* (Tsoukas, 2003; 2011) and, thus, not open to empirical investigation.

However, Tsoukas later suggests (Tsoukas, 2009) that the ineffability associated with tacit knowing does not necessarily imply that we cannot discuss the performances in which we are involved. He argues that although discussion in the form of dialogue has been suggested or implied by several organizational researchers to be a significant mechanism through which new knowledge emerges (see, for example, Nonaka and Takeuchi, 1995: 64; Tsoukas, 2003; von Krogh et al 2000: 84-88), it has not been adequately theorized. We need to know more, Tsoukas asserts, about how dialogue works to generate new organizational knowledge. In brief, Tsoukas summarizes his argument as follows: from a *dialogical* perspective, new organizational knowledge

originates in the individual's ability to make distinctions in relation to the task he/she is engaged in. New distinctions may be developed because organizational practitioners experience their situations in terms of already constituted distinctions, which lend themselves to further articulations. Further articulations develop when organizational members engage in productive dialogical exchanges. Dialogue becomes productive when the modality of interaction is that of relational engagement, that is, when participants take active responsibility for joint tasks and the relationships in which they are involved. Through productive dialogue, participants make themselves open to influence and thus are led to 'self-distanciation', that is, take a distance from their customary, unreflective ways of acting and doing things.

Productive dialogue is characterized by four properties, namely, collaborative emergence, constrained novelty, incremental emergence, and indexical creativity. These properties indicate participants' efforts to assimilate mutually experienced strangeness. Such assimilation occurs through conceptual combination, conceptual expansion, and/or conceptual reframing. Through these three processes of conceptual change, new distinctions are made which, when accepted inter-subjectively, constitute new knowledge. Such new knowledge, over time, fades into accepted knowledge and forms part of the inherited background thus providing the context for new organizational issues, causing unsettledness to emerge, and the dialogical processes to be reactivated (Tsoukas, 2009: 949-950).

The usefulness and utility of dialogue (or conversation, or talk) in researching engaged activity in organizational contexts has been addressed by a number of researchers. Talk, for example, has been shown to enable collective sensemaking, learning and reflection

(Garud et al 2011, Rerup, 2009; Weick et al 2005). The functions of talk and discussion which appear to be particularly important when investigating change – where participants in organizations must collectively find new ways of acting and doing things – have also been discussed by scholars researching change in organizational routines (Dittrich et al 2016; Edmondson et al, 2001). Dittrich et al (2016), for example, examined the role of reflective talk in how routines change. The authors argued that talk enables routine participants to collectively reflect on the routine and find new ways of enacting it. This enactment of collective reflection enables participants to name and situate the issue to be discussed regarding the performative and ostensive parts of routines, envisage and explore alternative ways of enacting the routine, and evaluate and question these suggestions from different angles. Edmondson et al (2001), too, found that reflective talk can be catalytic in routine change whereas restrictions or problems encountered in organizations may prevent or delay routine changing. In their study of a cardiac surgery routine, Edmondson et al (2001) described in detail how participants engaged in talk to reflect on changes of their routine and subsequently change its performance. Weick's (1993) seminal study also showed that lack of reflective talk in the face of disruptive events can lead to fatal breakdowns of routines.

These studies share one more thing in common: they draw on the principles of ethnography and along with a number of other studies share the view that ethnographic approaches to data collection can provide important insights to our understanding of everyday work and practices in organized contexts. In the next section, I delve deeper in the principles of ethnographic research and its usefulness. It seems appropriate, therefore, to concentrate on how we can *discuss* the skilled performances of

organizational actors and the ways these manifest themselves in organizational structures, processes and routines. Such methodologies draw upon the premises of subjective ontology and constructivist epistemologies in order to derive to an appropriate methodology that can shed light to the tacit, hidden and inaccessible part of knowledge.

4.3.1 Ethnography

I take methodology to mean "the theory of how research should be undertaken including the theoretical and philosophical assumptions upon which research is based and the implications of these for the method or methods adopted" (Saunders et al, 2015: 602). This definition implies that our philosophical underpinnings have to be consistent with the methods we use to investigate reality. As it has been shown in Table 4.1. (page 109), constructivist methodologies rely heavily on inductive, ethnographic approaches to theory building, with emphasis on dialogue and discussion (Cunliffe, 2011). Ethnography is a research methodology comprising of a variety of methods (Brannan and Oultram, 2012) that could include in-depth interviews, discourse analysis, personal documents, participant observation, visual methods (video, photography, drawings), and the internet. Ethnographic approaches, thus, allow the researcher to investigate the social character of knowledge building on different methods which can be used in conjunction (e.g. participant observation – or 'participant-as-observer' [Anderson, 2008: 150; Brannan and Oultram, 2012: 298] and in-depth, unstructured interviews) to permit for the emergence a fuller picture of knowledge.

Watson (2011: 205) defines ethnography as "a style of social science writing which draws upon the writer's close observation of and involvement with people in a particular social setting and relates the words spoken and the practices observed or experienced to the

overall cultural framework within which they occurred". In recent years there is an observed proliferation of ethnographic research in organization and management studies (Brannan et al, 2012; Cunliffe, 2010; Rouleau et al, 2014; Van Maanen, 2011; Watson 2011, Yanow et al, 2012), in strategy process (Langley et al, 2013; Van de Ven, 1992), in strategy-as-practice (Rasche and Chia, 2009; Rouleau, 2005), and other areas of organization work (Huising, 2014; Kaplan and Orlikowski, 2013; Nicolini et al, 2012). In the Annual *Academy of Management* meeting in 2013, one of the pioneering figures in ethnographic research, John Van Maanen, suggested that ethnography is more of a logic (or, stance) rather than a given method of inquiry. It is not a recipe; rather,

> "it involves fieldwork, headwork and textwork, and results typically in a written representation of cultural understandings held by others… that are closely tied to a specific context and always provisional and partial. It is both dynamic and recursive but the encounter with the 'foreign' or 'unknown' or 'strange' is the very essence of ethnography" (Van Maanen, 2015: 40).

This is an important insight provided by Van Maanen as ethnographic research is context-specific whereby the strange and unknown are the norm rather than the exception. Towards this end, as I have indicated earlier, this research deals with surprises, breakdowns and accidents which imply that an ethnographic approach in a study of knowledge is appropriate. This is emphasized also by Van Maanen in the following passage:

> "Our knowledge accumulates and changes over time as we come closer to understanding the perspectives – the venerable, if mythical, 'native's point of view' – of the people from whom we are learning. Knowledge emerges in part because surprise – the Holy Grail of ethnography – is inevitable and taken seriously. When people do or say what we least expect, explanations are called for, however limited and tentative they may be at the moment" (Van Maanen, 2015: 41).

In addition, the thesis bears upon contemporary theories of practice which place emphasis on individuals' practical knowledge understood as the ability to act in appropriate and/or effective ways. A practice perspective on knowledge emphasizes the role of the tacit: individuals are unable to state, in general terms, how it is appropriate and/or effective to act in different circumstances. As I have shown in Chapter *Three*, individuals are usually unable to articulate under what circumstances it is appropriate to greet somebody by way of shaking their hand or how to ride a bicycle or, even, how to conduct interviews. Given these circumstances, the social scientist will not be able to find out about this knowledge by simply asking individuals to tell him/her how it is appropriate and/or effective to act in various situations (Zahle, 2012). With this in mind, and being sensitive to the multifaceted and complex nature of tacit knowledge in organized contexts, the approach I propose to adopt in my investigation of the tacit builds on a subjective ontology, a constructivist epistemology and an ethnographic, dialogical and inductive methodology.

Such an approach, although theoretically consistent, lacks *application* in our research on tacit knowledge. Within organization and management studies ethnographic work covers a range of sociological-based studies grounded in ethnography (Watson, 1994), ethnomethodology (Samra-Fredericks, 2003) and discursive approaches (Boje, 1991), amongst others. One of the most influential works in the field has been Julian Orr's (1996) ethnographic study of photocopy-repair technicians at Xerox Corporation. Orr described how an organization's view of how work is carried out contrasts with what it really takes to do the job done. Orr studied the practices of the technicians whose work he characterized as "a continuous, highly skilled improvisation within a triangular relationship

of technician, customer, and machine" (Orr, 1996: 1). This triadic relationship creates challenges that the technicians need to understand and control that relate not only to machines themselves but also to the customers that these machines belong to. This is because the corporation assumes that the machines are identical and therefore, any problems or issues encountered in relation to their smooth operation should also be identical. This means that these problems can be diagnosed and solved by technicians using standard documentation that the corporation provides. As Orr (1996: 111) suggested, "in providing directive documentation the corporation is assuming responsibility for solving the machine problem and in the eyes of the corporation technicians are only responsible for failing to fix a machine if they have not used the documentation". Orr found, however, that this is not the case. His deep knowledge of the corporation he studied, his experience of working as a technician, and his skills as an ethnographer enabled him to write a powerful 'thick description' with insights on how technicians used their tacit knowledge and skills of repairing photocopy machines without relying on manuals or other explicit forms of knowledge. Orr built a compelling picture of the work practices of technicians and showed how the technician teams diagnose and solve problems through 'situated talk' about the machines (Beckhy, 2006: 1769). These 'war stories', are not only capable of transferring existing knowledge but, more importantly, are capable of solving novel problems at hand.

Orr's study is also important for the emphasis he placed on conversation and dialogue. Cunliffe (2008: 130) argues that the dialogic nature of situated, 'moment-to-moment dialogue' has the ability to shape our understandings of socially shared worlds and the ways we orient ourselves in these worlds by acting and practicing everyday tasks. To

paraphrase Cunliffe's (2008) example, as I am sitting at my computer writing this chapter, which to an observer may look as a solitary and individual activity, but there is a whole history of conversations with my classmates, my supervisors, my friends, myself, and texts that play into my writing. My friend comes and asks me what I am writing and our conversation helps me to see that I need to include this example in my writing. This, for Cunliffe (2008: 130), is the relational and mundane nature of dialogue: "not purely reflective but also intuitive and taken-for-granted".

Building more or less explicitly on Orr's approach, a number of studies have attempted to understand reflective practices (Jordan, 2010; Yanow and Tsoukas, 2009), unusual organizational experiences (Garud et al 2011), the role of objects in cross-disciplinary collaboration (Nicolini et al 2012), amongst others. Also, work on organizational routines and routine dynamics pays particular attention to ethnographic data collection as an important methodological tool which, coupled with practice theoretical approaches, can be effectively utilized to understand the micro foundations of routines in organized contexts (Feldman and Orlikowski, 2011; Feldman and Pentland, 2008). What these studies have in common is a novel insight on everyday practices, activities, and dynamics which would otherwise remain obscured and inaccessible to organizational researchers.

Recently, Bosma et al (2016) highlighted the importance of creative dialogue in opening up 'semantic spaces' that are essential for radical learning to take place. The authors define dialogue as "the verbal utterances we use in informal conversations, when communicating directly with others" (Bosma et al 2016: 20). Dialogue is processional and co-creative effort through which meaning is arrived at through novel and experimental attempts at articulating lived experiences. Dialogue, also, allow us to find the way towards

shared meanings and is instrumental in discarding accepted meanings. In dialogue we become aware of each other's thoughts even if meaning is not yet established. Dialogue does not necessarily create a unity of understanding; Tsoukas suggested that it is the recognition of difference in meanings that allow us to understand each other in dialogue and to potentially alter our own understandings (Tsoukas 2009: 943).

Therefore, it is through dialogue, conversation, and observation, that the researcher can become a reflective inquirer by incorporating aspects of the everyday experience into the research process.

4.4 RESEARCH SETTING AND METHODS

In this section I describe the particular methods that have been used to understand the role of tacit knowing in the context of organizational routines. What I have argued so far in this Chapter is that the apparent difficulty associated with researching the tacit stems from a pre-occupation to understand cognitive and mental structures that may (or may not) alter an individual's learning process. This, as Tsoukas has suggested, has been valuable in so far as it has provided us with insights that link knowledge (and, more importantly, tacit knowing) with organizational performance or with competitive advantage. However, more interpretivist methodologies that build on ethnographic, dialogical and inductive approaches may be more suited and perhaps more appropriate in investigating tacit knowing. This is because knowing is a social accomplishment which is constituted and enacted in everyday practices. This means then that the particular methods that can be utilized should take these principles into consideration.

In the next section I describe the research setting and explain the reasons behind this choice. Following discussion of this, I describe the ways that data presented in this thesis have been collected. Consistent with recent studies in organization and management research, I describe and explain the use of interviews (with emphasis on critical incidents) and archival data. This is followed by a discussion on ethical considerations and how they have been addressed in the thesis before I conclude the Chapter by offering an explanation on data analysis.

4.4.1 The Research Setting

Despite the plethora of studies, perspectives, and approaches to tacit knowledge and organizational routines as independent fields of inquiry and the wealth of empirical studies that have been generated in different disciplines, one important oversight has been

observed: There is virtually no empirical study (at least not at the time that this thesis is written) that concentrates on organizational settings operating in the Middle-East region and, more specifically, the United Arab Emirates (UAE). Almost every empirical study presented in top-tier academic journal publications derives its findings from data collected within 'Western' organizational settings that are typically based in the USA, UK, or continental Europe. This poses an opportunity for this thesis to be one of the first studies to investigate the link between tacit knowledge and organizational routines within Middle-Eastern organizational settings.

In a recent paper, Venkitachalam and Busch (2012) argued that a considerable driver for the recognition of organizational knowledge as a significant organizational phenomenon has been the increasing migration in the workplace from manufacturing to more service-based industries. This is particularly important when one looks at key economic figures in the Gulf region, especially in the UAE, where such a migration is set to continue strongly as oil and gas reserves would not be available for ever. What is particularly important to consider is that besides the obvious competitive advantages gained through lower labor costs for manufacturing, one other reason for the service orientation is due to the emphasis placed towards individual competences, know-how and collectively the intellectual capacity of the organization (Venkitachalam and Busch, 2012: 365). The following Table (4.2) presents the UAE's top-ten sectors ranked in terms of value added to UAE's economic growth. What is interesting to note is that these ten sectors account for almost 75% of the country's GDP.

TABLE 4.2 UAE'S TOP-10 SECTORS RANKED BY VALUE ADDED

United Arab Emirates: Top-10 Sectors Ranked by Value Added			
	2015 Level (Bil. US$)	2016 Percent Change (Real terms)	Percent Share of GDP (Nominal terms)
1. Oil & gas mining	106.7	-0.4	28.7
2. Construction	37.3	3.7	10.0
3. Retail trade - total	22.3	3.5	6.0
4. Public Admin. & Defense	20.8	2.2	5.6
5. Wholesale trade	18.9	3.3	5.1
6. Banking & related financial	17.2	3.3	4.6
7. Real estate	16.3	1.9	4.4
8. Business services	13.6	3.1	3.6
9. Communications	12.4	4.5	3.3
10. Hotels & restaurants	8.2	3.6	2.2
Top-10 Total	273.7		73.7
Source: World Industry Service, IHS Economics			
Updated: 18 January 2016			

Source: Word Industries Service IHS (2016)

In addition, UAE's economy is ranked the second largest is the Middle Eastern region and the 26th largest economy in the world as per GDP (World Industry Service IHS, 2016) and it is projected to grow even further within the next few years. Table 4.3 shows the changes in GDP from 2012 to 2019.

TABLE 4.3 UAE ECONOMIC GROWTH INDICATORS

	2012	2013	2014	2015	2016	2017	2018	2019
Real GDP (% change)	6.9	4.3	4.6	3.0	3.3	3.9	4.2	4.7
Real Consumer Spending (% change)	-13.4	6.0	-0.3	3.2	3.5	4.5	5.3	6.2
Real Government Consumption (% change)	1.2	1.4	3.7	2.6	2.6	2.2	2.3	2.8
Real Fixed Capital Formation (% change)	13.2	8.3	3.6	2.5	5.5	9.1	8.1	6.7
Real Exports of Goods and Services (% change)	17.0	4.5	8.2	2.9	4.1	5.2	5.3	5.8
Real Imports of Goods and Services (% change)	5.2	6.5	6.1	3.0	4.9	7.4	7.3	7.3
Nominal GDP (US$ bil.)	373.4	387.2	399.5	380.1	411.9	458.7	505.8	553.1
Nominal GDP Per Capita (US$)	41,712	42,831	43,963	41,505	44,446	48,812	53,000	57,096

Source: World Industry Service IHS (2016)

It is therefore quite important and perhaps more timely than ever to investigate how knowing and, in particular its tacit element, can be understood, theorized, and researched in organizations based in the UAE. Following recent studies in the wider organization and management research (Baralou and Tsoukas 2015; Bucher and Langley, 2016; Cornelissen 2012; Huising, 2014; Jordan, 2010; Kaplan and Orlikowski, 2012; Nicolini et al, 2012; Nicolini 2011; Pentland et al, 2011), I use an inductive approach to analyze real-time and retrospective, unstructured interviews to understand *how managers deal with critical organizational experiences in the context of organizational routines.* The identification of individual, professional, and organizational influences on tacit knowledge implies a need for an understanding of the context in which these individuals conduct their daily activities and requires a set of accounts that bear upon 'critical organizational experience'. By critical organizational experiences, I mean instances where processes and practices have gone through some kind of change (major or minor), transition or transformation in the eyes of those who experience them. This does not mean that critical experiences may be construed as 'dangerous' but as ones that have had an impact on

the participant's organizational life. To put it differently, my purpose was to understand how participants who have been engaging in organizational routines understand and reflect on the routines they have been involved in. To do so, I wanted to ask participants to reflect on their (critical) organizational experiences so that they can account for a breakdown in the process of performing organizational routines; I wanted to get to the participants' reflective accounts on how they have reflected when outcomes have been disrupted and how the subsidiary connections have been re-aligned in the face of novel experiences/routines.

This thesis therefore records critical organizational experiences based on *breakdowns* of 20 interviewees in two large pubic-owned firms based in U.A.E. which I call '**M**' and '**R**' respectively (to maintain anonymity and confidentiality). The study was carried out over a period of almost one and a half years, from January 2013 to May 2014. '**M'** is a corporation established in 2002 by the government of Abu Dhabi (capital city of UAE) as a principal agent of the city's economic growth with the purpose to facilitate investments in the city and meet the government's socioeconomic targets. With a portfolio of business of over 60 billion USD and more than 39,000 employees across the group, the company invests in diverse sectors including aerospace, financial services, healthcare, metals and mining, oil and gas, real-estate and renewable energy, amongst others. '**R'**, is an investment firm that attracts investments from the domestic and foreign markets to create wealth and raise the standard of living for the people of a particular Emirate. The firm is divided into 8 strategic units which include, amongst others, Education, Technology, Real Estate, Transportation, Manufacturing and Energy, and comprises of a portfolio of over 7,000 companies.

The rationale for the choice of these two organizations as research settings is four-fold:

(1) The present study is the first attempt to investigate the role of tacit knowing in organizational routines in the Middle-East and as such, this study aims to offer insights that go beyond the cultural settings of organizational research based mostly on European and American companies with a view to understanding another important context that varies in terms of rules, regulations and relations. Eisenhardt and Graebner (2007) call this a 'prototypical case' that is exemplary and high revelatory of the process by which individual participants construct their understandings on the presence or absence of social pressures to align with or accommodate the expectations of relevant others.

(2) The two companies selected in this thesis are large *public* organizations and this is another important characteristic that make these settings 'prototypical' in terms of complexity of operations and the accountability of the companies' actions to the country's communities and stakeholders. In addition, the combined workforce of these two companies exceeds 50,000 employees which means that the companies are particularly significant in terms of the socio-economic impact they exert not only in the two cities they operate, but also in the wider context of the UAE.

(3) The author has been offered to work in the form of placement in '**R**' while working on a full time basis in '**M**' in the company's offices in London. This has afforded me a unique opportunity to research deeper the two organizations and endeavor to understand the context of operations and the struggles and tensions of day-to-day business. Such access is very important in ethnographic

approaches as it encourages engagement with organizational activities that would otherwise remain inaccessible.

(4) The issue of 'accessing' such large organizational contexts requires significant pre-work in terms of communication, connections, and agreements that can be time-consuming and complex. As it will be shown in later parts of this thesis, an important component in gaining (and maintaining) unprecedented access to large corporations in UAE relates to the level of 'social capital' employed by the part of the individuals involved in negotiating such access. Two important reasons played a crucial role towards gaining such access: (a) the researcher is an Emirati citizen and decedent of one of the royal families in UAE; and (b) the researcher's mobilization of key contacts in the two organizations who have acted as mediators in providing the necessary leverage for such access to materialize.

4.4.2 Data Collection

Consistent with recent work in organization and management studies (Dittrich et al 2016; Huising, 2014; Kaplan and Orlikowski, 2013; Nicolini 2011) I used ethnographic data collection methods that allowed me to observe in real time the experiences of the actors in both organizations. I began my work on observing the actors and their interactions in '**M'** during July and September of 2013 and in '**R'** during March and May 2014. My purpose was to understand participants' experiences on a daily basis and for this reason I observed various professionals/managers as their practices in the organizations unfolded. In both organizations I undertook various positions because placement contracts (or internships) were based on a rotation system for all the new-comers with the

purpose to familiarizing themselves with different organizational activities. In '**M**', for instance, I worked on a full time basis before I was given the opportunity for the internship at different departments.

Part of the agreement with the organization was to rotate to various positions and departments based on my preferences and interests. This created for me an unprecedented opportunity to come closer to key participants (i.e. managers and directors) and observe, talk, and interview (informally in most cases) these individuals in an attempt to understand why they acted the way they acted in particular situations. In '**R'**, I rotated on a monthly basis from the Marketing division to the Finance division to the Business Development division. After the first month of merely observing executives and managers while conducting their daily activities, I begun to engage more actively with them by conversing, informally interviewing, and collecting documentation on various projects that the organization was involved in. In both organizations, I attended meetings with suppliers and customers, observed interactions between managers and clients, attended meetings between directors and managers, discussed informally various activities that managers undertook in the organization and took notes in most cases.

Due to the fact that the selected companies are public rather than private entities, a number of challenges needed to be overcome that related to the collection of written data:

(a) I was not permitted to take away from the office any documentation that was related to the companies' policies, procedures and manuals since these were marked as 'private and confidential' and were only available for internal viewing.

(b) My notes on the observations were viewed for approval and validation from the line manager – typically the department head – to ensure that what I observed and noted and what had actually happened was believed to be 'accurate' by the participant involved.

(c) Sometimes, discussions were quite private (only between the researcher and one or two employees) as there was a 'felt tension' that whatever was said should have been kept private and confidential.

In addition to the informal discussions, I also conducted 20 formal, in-depth, largely unstructured interviews, using a qualitative version of the *Critical Incident Technique* (CIT) (Butterfield, et al. 2005; Chell, 2004; Kokkalis, 2008) to evoke the complexity of assessing organizational experience and understand how tacit knowing has been altered in view of novel organizational experiences and to allow for self-critical reflection in my engagement with the participants. Interviews were used to explore different meanings, perceptions, and interpretations of organizational members. Interviews are seen in this context as conversations or discussions in which participants jointly reflecting on issues and discuss insights (Boje, 1991; Cunliffe, 2002). The main aim of the interviews was to uncover the tacit knowing of individual participants and understand how they have shaped their experiences in the selected organizations. More specifically, building on my theoretical understanding on the structure of tacit knowing and its relation to organizational routines, I was interested in understanding *how breakdowns in the structure of tacit knowing impacted or altered the relationship between meanings and practices and led to new performances*.

The use of the Critical Incident Technique as a way of eliciting tacit understandings and reflective accounts of managers and professionals has recently been discussed in a number of studies (Cornelissen, 2012; Jordan, 2010; Leitch et al 2010; Mantere, et al. 2012). For example, Cornelissen (2012) used the technique to identify how corporate communication professionals made sense of anomalous circumstances while maintaining accountability to others. Jordan (2010) used the technique to find out how an anaesthesiology department used organizational practices to help novice nurses to become more reflective of their engagements. Mantere et al (2012), too, used the technique to identify how managers deal with cancelled planed strategic changes. The usefulness of critical incidents as a method for researching tacit knowledge in organizations has been discussed extensively as a way of eliciting the tacit, hidden and inaccessible experiences of organizational members (Ambrosini and Bowman, 2001; Tsoukas and Sandberg, 2011) or deal with unusual organizational experiences (Cornelissen, 2012; Garud et al 2011). Other studies have also acknowledged the 'critical' aspect of organizational experience and discussed how unstructured or 'loosely' structured interviews can have benefits when exploring areas as diverse as managerial and organizational ignorance (Roberts, 2013), accidental innovation (Austin et al, 2012) and sensemaking (Weick and Sutcliffe, 2007).

It does seem then that unexpected experiences (breakdowns, surprises, accidents and so on) play an important role not only in organizational life but also in the researcher's life (Oliver and Roos, 2003). Exploring multiple interpretations and reflections of participants builds up a relational bond between the researcher and the researched. As Cunliffe (2011: 663) suggests participants' perspectives that are centered on stories that incorporate

feelings, reactions, similarities and differences is a meaning-making process that is contextual, evocative, and negotiated. Surprises, errors, breakdowns, accidents, ignorance, and so on are areas that have very recently begun to be discussed in organization and management studies. What they have in common is that moments of surprise have the potential to make people become more aware (shift the attention from focal targets to subsidiary particulars, in Polanyi's work) of their actions and practices as they reflect on their tacit knowledge and taken-for-granted assumptions.

4.4.2.1. The Interview Process

As indicated above, 20 formal interviews in total have been conducted with managers, senior managers, and executives in both firms. In '**M'**, formal interviews took place between August and September 2013 whereas in '**R**' interviews were conducted during April and May 2014. Shortly after I joined both organizations, I conducted a number of meetings with managers and senior managers of different departments to explain the purpose of the study and assure all participants that their responses would be made anonymous and treated confidentially. In these initial meetings I explained to the participants my research aims and objectives, my role in the organization both as an intern and a researcher, and emphasized the importance and contribution of studying tacit knowing in UAE-based organizations. I also asked participants to provide an account of their roles and responsibilities in the company and think of examples of critical experiences that shaped their understanding of 'how things are done' in the organization. After these initial meetings, a small number of participants (three in '**M**' and two in '**R**') who had initially agreed to participate in the research informed me that they would not be

able to participate in the study citing different reasons (e.g. workload problems, time constrains, unwillingness to participate, and so on).

The formal interviewing process begun a few weeks later. Formal interviews were performed at each organization and lasted approximately one hour on average. The interview protocol was such that participants were asked to firstly describe their role in the organization and to subsequently describe the handling of at least two (or three) critical incidents that had happened within the last two years. I defined critical incidents as 'unprecedented events' for the participants that required them to make a decision in relation to a situation that was perceived as perplexing or difficult in their organizational experience. Consistent with recent studies that have utilized the same approach to interviewing based on critical incidents (see, for example, Cornelissen, 2012; Jordan, 2010, Mantere, et al. 2012), participants were asked to recall specific events from their personal perspectives and their own worlds which gave them a 'voice' (Nag and Gioia, 2012; Leitch, et al. 2010). This permitted 'self-defined criticality' where the focus is on participants' personal representation of 'salient moments' (Cope, 2003: 436). This, as Chell (2004) and Kokkalis (2008) suggest, yields an understanding of the critical incident from the point of view of the individual participant.

The use of critical incidents enabled the creation of detailed records of events and rich set of data. Kokkalis (2008) has pointed out that in designing such interviews – which allow the participants to lead and set the dialogue (Thompson et al. 1989) – the researcher needs to find a good balance between pre-understanding (i.e. the theoretical background understanding that he/she brings along in the investigation) and unbiased 'openness' towards the phenomenon under investigation. Thus, it is the participant who

effectively defines what constitutes an incident, its criticality, and how or why he/she has acted in one way rather than another. To ensure that participants have been *prepared* for their accounts of critical incidents as much as it is possible, they were asked to think about them *prior* to the day of the interview. In this way, participants were given more time to *reflect* on their experiences and during the interviews they could analyze in more depth their accounts. During the interviews, I asked participants to talk at length about each incident, its background and development, and what they did and thought at various points. Only when there was a noticeable pause or end to the talk I stepped in and asked them further questions about the incident. The intension of this particular tactic during interviewing is, as Cornelissen (2012: 121) also argues, to capture uninterrupted and on-line understanding in speech, where frequent breaks through questioning could have led to turns in the understanding or summarization and contrast.

For this reason, interviews in this context were largely unstructured. In searching for changes in the process of knowing, therefore, emphasis is placed on how interviewees have changed their actions and practices in light of their new understandings. As the interviews unfolded, a number of questions were used to elicit richer details, descriptions and understandings on why the narrated events were indeed critical (e.g. “why this event was important to you?”, “what was your reaction with respect to that particular event?”, “could you give me an example of how exactly you dealt with that particular situation?”, etc.). At the end of each narrated incident, questions were asked in relation to any other details or information that the participant felt relevant to add to their stories. The following questions were used to probe further details: “what were the actions taken by the people involved in the incident?” and “what were the outcomes and the effects of these actions?”.

Narrative stories are 'contextually embedded' (Boje, 1991: 109), and "reflect the complex social web within which work takes place" (Brown and Duguid, 1991: 44).

In the middle and at the end of each interview, I summarized and fed my interpretations of participants' accounts back to each individual as a way of strengthening my interpretations and to check against alternative interpretations (Cornelissen, 2012: 122). This was also done because although most of the interviews were conducted in Arabic language (my native language), three or four individuals preferred to be interviewed in English language (and one or two were native English speakers). All interviews were recorded and transcribed within two days after each interview took place. Table 4.4 provides an overview of research participants, their role in the organizations, and the critical incidents they narrated.

TABLE 4.4 OVERVIEW OF RESEARCH PARTICIPANTS, THEIR ROLE IN THE TWO ORGANIZATIONS, AND CRITICAL INCIDENTS NARRATED

Participant (*Pseudonym*)	Role in the Organization	Narrated Critical Incidents
	Company M	
AM	**Financial Manager**	(a) Behavior of people and personalities in the organization that impact psychologically the wider environment within and across departments. (b) Payments and rewards that do not reflect the actual work of individual employee performance.
BM	**Customer Services Manager** (Telecommunications)	(a) Problems and concerns regarding the customer services in the current organization and the impact of this on the specific department and the company overall. (b) Issues related to the ways that the company was handling customer inquiries and complains and the ways that these were handled by the department.
CM	**Manager of Operations**	(a) Miscommunications and concerns regarding formal operating procedures, rules and company documentation versus managerial command. (b) Collegiate conflict, personality clashes, and managerial favoritism amongst colleagues from the same department.

DM	**Human Resources Manager** (Telecommunications)	(a) Issues related to the ways that customers were handled by certain employees and the implications of this for the organization. (b) Connections of certain employees to powerful individuals within or outside the organization and the difficulties associated with managing these individuals.
EM	**Managing Director**	(a) Tensions between expatriate managers and local subordinates and the issues related to payments, rewards, experience in the organization, and connection in the form of 'Wasta'. (b) Difficulties and issues associated with moving the organization to electronic system of work by implementing appropriate technologies.
FM	**Senior Manager** (Petroleum)	(a) Lack of promotional opportunities in the company as he was considered 'young' for getting important company projects under his authority. (b) Disregard and disrespect of employees' personal circumstances by senior managers in the company.
GM	**Vice President of Human Resources** (Petroleum)	(a) The difficulties associated with the initiation and implementation of a new HR system. (b) Communication problems when the company had to go through restructuring following the global financial crisis of 2008-2009.
HM	**Senior Financial Manager** (Petroleum)	(a) Fear of losing jobs due to minor mistakes (in the Finance department). (b) Disrespect and lack of attention to personal circumstances of employees and inability of HR Unit to solve problems (this manager resigned shortly after the interview took place)
IM	**Assistant Financial Controller** (Petroleum)	(a) Differences between local and international workforce related to project handling, execution, and general management. Also, problems of communication between departments and managers. (b) Corruption and contractual issues in various joint venture projects (including auditing problems for the current organization).
JM	**Senior Financial Analyst**	(a) Lack of understanding between what policies, procedures and regulations state and how management interprets these depending on the circumstances. (b) Cultural differences that pose issues between local and expatriate workforce in the organization, namely managers and subordinates – the use (and, misuse) of 'Wasta' to get things done for personal gain.
	Company R	
AR	**Marketing Manager**	(a) Issues, problems, and concerns regarding a rebranding exercise in the company. (b) Issues and problems related to measuring the effectiveness and efficiency of marketing and other company communication activities.

BR	**Senior Manager of Accounts and Finance**	(a) Ethical issues related to financial matters in the organization. (b) Fraudulent practices that have been uncovered during his involvement in the auditing of the company.
CR	**Business Development Executive**	(a) Risks associated with organizing particular events for the company and its stakeholders that stem from communication misunderstandings, lack of commitment and budgetary restrictions. (b) Project rotation in the company resulted in lack of ownership and control of projects which, consequently, were delayed and incomplete.
DR	**Marketing Consultant**	(a) Issues related to the completion of marketing projects that required inputs and services outside of the company. (b) Substantial differences in the management style in the organization (old vs. new management) and the implications of this for all employees. (c) Serious mistakes in company's accounts (in his capacity as auditing assistant) that could have had a significant impact on the credibility and trustworthiness of the organization.
ER	**Manager of Security and Inspection**	(a) Responsibilities around projects and the managerial blame when things go wrong; rule-following as an important element in getting on the management's side. (b) The misunderstandings and miscommunications surrounding the effective organization of international events.
FR	**Senior Executive of Business Development**	(a) Loosing ownership of projects that have been championing and the implications of this for the understanding of his/her role and responsibility in the firm. (b) The handling (or, mishandling) of projects in the company and the tight delivery times set by management.
GR	**Manager of Customer Services**	(a) Loosing custody of a project (auditing) after a mishandling of important documentation. (b) Managerial ignorance on issues related to personal problems both inside the company and outside of it.
HR	**Senior Executive of Marketing and Communications**	(a) Issues and problems with more experienced colleagues in the beginning of the employment in the company (trust and confidence). (b) Lack of communication and commitment with external contractors when projects are expected to be delivered on certain timeframe.
IR	**Principal Business Associate to the CEO**	(a) The difficulties around the structure of the organization in terms of lack of flexibility, communication and outreach to important stakeholders. (b) Problems, issues, and concerns regarding a rebranding exercise that currently takes place in the organization.
JR	**Manager of Finance and Accounts**	(a) Fraudulent practices (auditing) that have been taken place in the company and the implications of this for the firm.

(b) Lack of responsibility and ethical conduct of managers to handle serious situations that have taken place in the company.

It is important to highlight at this stage that since the research settings were large, government-owned entities, some of the participants have been particularly concerned about expressing their views openly in their offices or within the company's doors. In order to overcome this problem, there have been agreements to discuss and carry out the interviews at the participants' homes or at other mutually convenient locations that were agreed upon between the researcher and the participant. This has meant that a number of participants discussed more personal rather than organizational matters or incidents and the role of the researcher to direct the conversation into the area of investigation has been instrumental and, at the same time, challenging. For example, some participants discussed how a sense of fear of losing one's job in the company because of a simple error or omission has been a major feature of organizational life, particularly evident in the last five years of operation.

4.4.3 Ethical Considerations

To enhance the quality of the research and ensure that both the process and the outcomes of this thesis would not pose any issues or concerns to the research participants and the organizations these were part of, a number of procedures and measures were employed at various stages of the research process. These measures are consistent with the principles related to ethical considerations as outlined by Bryman and Bell (2007) and other studies that have utilized similar approaches to data collection (e.g. Bucher and Langley, 2016; Cornelissen, 2012; Dittrich et al, 2016; Jordan, 2010). First, before access was granted to the research settings, I held two meetings with top

managers in the two organizations (different dates) with the purpose of explaining the research aims and objectives. In these meetings it was also stressed that respondents' participation in the research is voluntary and they have the right to withdraw at any stage if they wish to do so. Upon agreement with the managers, access to the two organizations was granted.

The second stage involved the steps undertaken during my participation in the research settings. To increase trustworthiness (Guba and Lincoln, 1985) between the participants and myself, considerable time was spent in engaging in various internal (attending meetings, presentations, conversations) and external (lunch breaks, dinners with colleagues, social gatherings) activities. Through this prolonged engagement, persistent observations of various situations were indeed possible. In addition, as indicated in the previous section (4.4.2.1), respondents participated in the research voluntarily and on the basis of informed consent. All participants were fully informed and assured that all information provided by them would be treated strictly confidentially and only for the purpose of the thesis (or other publications that may derive from it). Moreover, all participants were informed that although interviews would be recorded and notes would be taken in meetings and other conversations inside the organizations, all material would be anonymized and treated confidentially. To ensure anonymity, for example, participants were given a letter of the alphabet in order in which they have been interviewed followed by the letter '**M**' or '**R**' to connote the company in which they were part of (e.g. AM, BM, CM,…AR, BR, CR, etc.).

To enhance the ethical standards of the research approach, the third and final stage involved the agreement to treat all internal company publications with the utmost

confidentiality and ensure that none of these publications would be taken away from the companies' premises in any form (hard or electronic copy). For the purpose of the thesis, however, it was agreed that reference to internally published material could be made if and only if the document quoted would remain anonymous and confidential. For example, an extract from the 'Staff Handbook' should be referred to as 'Internal Company Document'. In addition, the final thesis would be presented to the participants and senior management in a workshop which will be organized shortly after receiving the Doctorate award. In this way, the companies can benefit from the contributions made by this thesis and discuss the implications of the findings for current and future practices.

4.5 DATA ANALYSIS

Flick (2013: 5) defined qualitative data analysis as “the classification and interpretation of linguistic […] material to make statements about implicit or explicit dimensions and structures of meaning making in the material and what is represented in it”. Such an analysis can also be applied to discover and describe issues in the field of structures and processes in routines and practices (Flick, 2013). This involves “working with data, organizing it, breaking it into manageable units, synthesizing it, searching for patterns, discovering what is important and what to be learned, and deciding what you will tell others” (Bogdan and Biklen, 1982: 145). Qualitative data analysis allows research findings to be drawn from the dominant or significant themes emerging from the raw data without the constraints of more structured methodologies (Leitch et al, 2010). The primary goal is to generate understanding of the participants’ understanding in the research situation.

In line with other qualitative studies in the field of organizational routines and general management and organization studies (Bucher and Langley, 2016; Dittrich et al 2016; Howard-Grenville 2005; Kaplan and Orlikowski, 2013; Mantere et al 2012; Rerup and Feldman 2011; Sonenshein, 2016; Turner and Rindova, 2012), I followed an iterative and inductive approach to data analysis, going back and forth between the empirical material, the emerging interpretations, and the literature. The analysis was a lengthy, complex, and sometimes frustrating process as several rounds of analyses were carried out during fieldwork and after it was completed. This involved listening to the interview transcripts; transcribing the interviews; translating most of the interviews – from Arabic into English; reading the transcripts several times; summarizing the transcripts and choosing categories; coding statements; linking themes; selecting appropriate quotations; and

ultimately, generating theory grounded in the data and writing it up in a coherent fashion. The overall analysis aimed to understand *how breakdowns in practical engagement of the participants in their daily routines altered their understanding of the practices involved in enacting these routines*.

In line with the data analysis approach developed and presented by Dittrich et al (2016: 4-6) who investigated the role of reflective talk in organizational routines, the overall analysis presented here proceeded in a similar pattern encompassing four stages. In the first stage, I interrogated the data for emergent contents and interactional patterns and recursively going back and forth between transcripts, original recordings, and field notes (Eisenhardt and Graebner, 2007; Yanow and Schwartz-Shea, 2006). Then I started reading the textual documents from the recorded and transcribed interviews to identify and separate the narrated critical incidents. In total, forty one (41) critical incident accounts were identified in the twenty (20) interview transcripts. Out of these initial incidents, I separated and coded the ones that had been quite substantial in terms of background information provided in the incident, reflections on how the respective participant responded to the incident, and evidence in individual accounts on how and why each participant dealt with the event and its outcomes. This process yielded thirty four (34) critical incident accounts that were usable and ready for the subsequent analysis. The remaining seven (7) incidents were deemed incomplete or inadequate for the purposes of this thesis and were thus discarded.

In the second stage, I started to re-read the thirty four incidents in detail to identify common themes and categories. I soon came to realization that these accounts were revealing several interrelated themes that could be connected to the literature on

organizational routines. This is because the data started revealing patterns in the narrated accounts that could be thought of as belonging to particular organizational routines. For example, a number of incidents narrated by different individuals touched upon critical experiences related to the ways that customer services are understood and employed in the researched organizations; various marketing activities related to a recent re-branding exercise in one of the two companies; errors and omissions that took place during auditing; the ways that policies and procedures are understood in both organizations; and Human Resource practices and systems and their utility in both organizations.

At this point, I started matching the narrated accounts to the general themes that later in the analysis were refined and renamed as 'organizational routines'. It is important to note here that when the first round of analysis took place, the focus of the interviews were on individuals accounts on how and why participants have acted in a particular way within the context of a critical organizational experience. However, data can have surprising powers (Miles et al 2014); moments which can themselves be construed as 'breakdowns' in the connection between the researcher and the researched. Miles and Huberman (1994: 262) argue that such moments of surprise should be followed up by the qualitative researcher as they can reveal nuances in the data that had not been thought of before. Therefore, even though the focus of the interviews was not put explicitly on organizational routines, participants' accounts appeared to concentrate on six or seven themes that I construed as 'ostensive routines'. This was an important step in the analysis as it illuminated what Feldman and Pentland (2003) noted that routines are "repetitive, recognizable patterns of interdependent actions, carried out by multiple actors" (Feldman and Pentland, 2003: 95). What I can add to this point is that the actions that give shape

to routines may also be 'talked about' by multiple participants who have engaged in the enactment of organizational routines and, retrospectively, try to make sense of these experiences. This is because participants talked about breakdowns in routines that were broadly used (for example, carried out by multiple actors such as managers and employees), frequently used (for example, critical aspects of the organization's operations repeated several times during my engagement in the companies), identifiable to participants (for example, referred to explicitly in the data) based on independent actions (for example, the output of one action served as an input to another), and considered by research participants (managers, senior managers, and employees) to be important for the operation of the business.

Hence, since most of the narrated incidents were related, more or less explicitly, to these five routines, I decided to group the narrated critical incident accounts under these 'ostensive routines', i.e. *Rebranding*, *Hiring and Promotions*, *Human Resource Systems Implementation*, *Customer Services*, and *Auditing*. I had realized at that point that I had observed at least some aspects of these routines being enacted in the two organizations and had observed some steps of these routines enacted several times in the course of my engagement (internship) with the two organizations. I had also interviewed key individuals who were responsible for the enactment of these routines without knowing this crucial fact in advance. In the analysis that followed, I chose to concentrate on four of these routines: *Hiring and Promotions*, *Rebranding*, H*R Systems Implementation*, and *Customer Services*. I have excluded the *Auditing* routine from the later stages of analysis and subsequent discussion in the thesis because I have judged the critical incident accounts provided by participants in relation to this routine to be rather 'sensitive' – and,

at times, inappropriate – for public disclosure in terms of information and evidence provided. Table 4.5 outlines the initial categories used to frame coding of the data with the use of examples.

TABLE 4.5 THE DEVELOPMENT OF CODING CATEGORIES

Initial Categories (the Routines)	Critical Incidents
Hiring and Promotions	(a) Payments and rewards that do not reflect the actual work of individual employee performance. (b) Collegiate conflict, personality clashes, and managerial favouritism amongst colleagues from the same department. (c) Connections of certain employees to powerful individuals within or outside the organization and the difficulties associated with managing these individuals. (d) Tensions between expatriate managers and local subordinates and the issues related to payments, rewards, experience in the organization, and connection in the form of 'Wasta'. (e) Lack of promotional opportunities in the company as he was considered 'young' for getting important company projects under his authority. (f) Disrespect and lack of attention to personal circumstances of employees and inability of HR Unit to solve problems. (g) Differences between local and international workforce related to project handling, execution, and general management. Also, problems of communication between departments and managers. (h) Lack of understanding between what policies, procedures and regulations state and how management interprets these depending on the circumstances. (i) Cultural differences that pose issues between local and expatriate workforce in the organization, namely managers and subordinates – the use (and, misuse) of 'Wasta' to get things done for personal gain. (j) Substantial differences in the management style in the organization (old vs. new management) and the implications of this for all employees. (k) Responsibilities around projects and the managerial blame when things go wrong; rule-following as an important element in getting on the management's side. (l) Loosing ownership of projects that have been championing and the implications of this for the understanding of his/her role and responsibility in the firm.
Rebranding	(a) Issues, problems, and concerns regarding a rebranding exercise in the company. (b) Issues and problems related to measuring the effectiveness and efficiency of marketing and other company communication activities. (c) Risks associated with organizing particular events for the company and its stakeholders that stem from communication misunderstandings, lack of commitment and budgetary restrictions. (d) Issues related to the completion of marketing projects that required inputs and services outside of the company. (e) Lack of communication and commitment with external contractors when projects are expected to be delivered on certain timeframe. (f) The difficulties around the structure of the organization in terms of lack of flexibility, communication and outreach to important stakeholders. (g) Problems, issues, and concerns regarding a rebranding exercise that currently takes place in the organization.
HR Systems Implementation	(a) Difficulties and issues associated with moving the organization to electronic system of work by implementing appropriate technologies. (b) The difficulties associated with the initiation and implementation of a new HR system.
Customer Services	(a) Problems and concerns regarding the customer services in the current organization and the impact of this on the specific department and the company overall.

	(b) Issues related to the ways that the company was handling customer inquiries and complains and the ways that these were handled by the department. (c) Miscommunications and concerns regarding formal operating procedures, rules and company documentation versus managerial command. (d) Issues related to the ways that customers were handled by certain employees and the implications of this for the organization.
Auditing	(a) Fear of losing jobs due to minor mistakes (in the Finance department. (b) Corruption and contractual issues in various joint venture projects (including auditing problems for the current organization). (c) Ethical issues related to financial matters in the organization. (d) Fraudulent practices that have been uncovered during his involvement in the auditing of the company. (e) Serious mistakes in company's accounts (in his capacity as auditing assistant) that could have had a significant impact on the credibility and trustworthiness of the organization. (f) Loosing custody of a project (auditing) after a mishandling of important documentation. (g) Fraudulent practices (auditing) that have been taken place in the company and the implications of this for the firm. (h) Lack of responsibility and ethical conduct of managers to handle serious situations that have taken place in the company.

In light of this new focus in the research approach and analysis, the third stage involved the development and classification of 'descriptive codes' that were related to moments of breakdown in the practical engagement of participants within the aforementioned four routines. At this stage I proceeded by ascribing preliminary codes or categories deriving from the interview narratives. This process of 'open coding' (Strauss and Corbin, 1998) allowed me to create a 'start list' (Miles and Huberman, 1994) from the interview data, the critical incidents and the breakdowns. More specifically, I turned my attention to an inductive coding scheme that allowed me to analyze participants' interpretations from the ground up. I searched for patterns in terminology on how participants described and explained their involvement in certain practices and routines and examined how these practices produced (or failed to produce) certain outcomes.

This led me to explore more closely the ways that participants understood their roles, actions, and outcomes of their actions and how they have conceptualized these in retrospect, that is, after the actions and outcomes have been produced. It was in these moments where the breakdown in the structure of tacit knowing became visible for

research and analysis. For example, moments of breakdown related to the *Customer Service* routine revolved around four different accounts of critical incidents. Each of these incidents was centered on breakdowns in the structure and outcome of this particular routine. The customer services manager, for instance, described in detail the problems associated with the performance of this routine in the organization and the various steps he undertook in order to make it work more effective. On the other hand, the marketing manager described in his account how the ineffective performance of customer services impacted the department he was heading and the implications of this for the organization as a whole.

As the analysis of breakdowns in the context of organizational routines unfolded, I treated instances of breakdowns in a similar way to that developed by Jordan (2010) who treated these instances as learning process in the participants' experiences that contributed to changing patterns of thinking and acting. As indicated earlier in section 4.4.2.1, interviews were loosely structured, and, in many cases, totally unstructured to allow participants to discuss their experiences in an uninterrupted manner. A number of times during the interviews, however, I asked participants 'why' and 'how' questions in order to prompt them to delve deeper into their narrated incidents and thus stimulate moments of reflection and in-depth consideration. For example, critical incidents centring on the *Hiring and Promotions* routine revealed instances where participants' retrospective accounts on how and why they acted in one way rather than another brought forward accounts of *re*-action to the breakdown as a means to restore the order of practices and routines. Some participants, for instance, argued that it was through dialogue, discussions, and conversation with other participants that the routine was effectively carried forward.

This led me to further review the literature, seeking insights into what triggers breakdowns and how these can be overcome. Organization and management studies literature, particularly research that draws on a Heideggerian practice-theoretical perspective (Chia and Holt, 2006; Sandberg and Tsoukas, 2011; Tsoukas 2010; Zundel and Kokkalis, 2010) helped me to understand how reflexivity emerges from moments in which the practical, unreflective coping activities of organizational actors become the focus of attention and reflection in their attempts to move forward the activities they participate. In addition, I gained insights from the literature on dialogue (Cunliffe, 2002; Tsoukas, 2009) and mindfulness (Jordan et al 2009; Langer, 1997; Levinthal and Rerup, 2006; Weick and Sucliffe, 2006). Research in the case of the former helped me to understand how following moments of breakdown, organizational participants restore their understandings by engaging in productive dialogical interactions with other organizational members. In the case of the latter, I realized that mindfulness in action plays a critical role in the execution of routines and practices as they help participants to become more aware of the actions they participate and thus foresee or avoid instances of disturbance. Referring back to the interview transcripts, I realized that participants' narrative accounts of critical organizational experiences involved instances in which their tacitly held assumptions and understandings had broken down because of their inability to connect subsidiary particulars and focal targets.

In the next stage, I engaged in a more focused coding of breakdowns and sought to identify and analyze all instances in the narratives that were related to similar areas. In so doing, judgments have been made in relation to what should be included and what should be left out. At this stage, the analysis became more theory-driven as I was intent

on discovering the theoretical contribution contained in the empirical results of this thesis. This was not an easy process and the assistance of my supervisor at this stage was very important as we both read the transcripts and assigned codes related to breakdowns. We identified nine different areas that all accounts of breakdowns could/would fit in. These included: RULES, POLICIES, REGULATIONS, ROLES, RESPONSIBILITIES, ARTIFACTS, OBJECTS AND TOOLS, IDENTITIES, and RELATIONSHIPS. After several rounds of validation and discussions with the supervisory team, these areas appear to represent three areas of breakdown where participants could not be able to integrate tacitly subsidiary particulars and focal targets in the context of organizational routines. These categories were revised, refined, and summarized into three areas of breakdown: *integration with one's identity, roles, and responsibilities*, *integration with others and various relationships*, and *integration with artifacts (objects or tools)*. Table 4.6 demonstrates the final coding of categories and sub-categories.

As a final note, it is worth mentioning at this stage that the analysis of the critical incidents presented in this thesis is one of the many potential interpretations (Van Maanen, 1988). However, the rigorous practice that was followed in producing and analyzing the data helped me to avoid "fitting the data to illustrate a theory" (Wodak, 2004: 200) as I constantly interrogated the emergent theory as well as the data through the process.

TABLE 4.6 FINAL CODING OF CATEGORIES AND SUB-CATEGORIES

	Routines			
Areas of Breakdown	**Rebranding**	**Hiring and Promotion**	**HR Systems (and their implementation)**	**Customer Service**

Integrations with identities, roles and responsibilities	Lack of experience on how to perform certain activities	Favoritism 'Wasta' Cultural misunderstandings	Tensions between managers and employees regarding the use and purpose of technologies	Management taking away roles and responsibilities Movement of colleagues across different departments
Integrations with others and various relationships	Lack of experienced colleagues (others) Lack of communication	Concerns about unethical practices Lack of trust in management	Sense of senior management control over managers and employees	Performance in one department affects other departments
Integrations with artifacts (objects and tools)	Difficulties around measuring the effectiveness and efficiency of marketing campaigns	Disrespect of rules, written documentations, and various policies	Differing perceptions of policies, regulations, and technologies	Suspicion over implementing new technologies

4.6 CHAPTER SUMMARY

This Chapter provides an overview of the philosophical and methodological approaches underpinning this thesis. The question I wanted to address in this Chapter was *how can we, as organizational researchers, empirically investigate tacit knowing in the context of organizational routines*? My aim was to describe and explain a methodological approach that can be used to adequately and appropriately research such a phenomenon. After reviewing the main philosophical perspectives in terms of their ontological and epistemological assumptions, conceptions about the role of the researcher in the process of investigation, the methodological techniques used to investigate organizational reality, and the particular methods that may be used to uncover the phenomena under study, it has been argued that an investigation of tacit knowing should rest on a subjective ontology, a constructivist/interpretivist epistemology, an inductive and ethnographic methodology, and research methods that place emphasis on storytelling, interviews, and, wherever possible, observations. This is because the role of the researcher in this process is a reflective one who studies the phenomenon from within the system and is sensitive to the multifaceted and complex nature of tacit knowing in organized contexts.

To-date, empirical research on tacit knowing is rather scarce. This is because, it is argued, researchers start from the wrong premise: they assume that the tacit resides in mental models and schemata that alter one's own learning process. In this Chapter it is argued that in order to come closer to the phenomenon we need to look at the *actions* of participants while they attempt to accomplish particular tasks (organizational routines). Such an engagement with various organizational tasks do not always run uninterrupted and smoothly. There are occasions that participants' understandings get disturbed or breakdown and thus provide avenues for analysis and explanation. In line with recent

studies in organization and management studies, such analysis can be achieved through dialogical exchanges between the researcher and the researched and this can lead to new distinctions and thoughts that had hitherto been unnoticed.

Therefore, bearing on the premises of ethnography and the importance of dialogue, the Chapter describes the particular methods that facilitated such dialogical exchanges in search of tacit understandings in the context of routines. Informal discussions coupled with formal interviews (conversations) building on critical incidents were used to identify how and why participants did what they claimed they did when performing particular tasks and how these have changed in the light of novel experiences and outcomes. In this context critical incidents are linked to breakdowns in organizational routines as they are seen as moments of interruption in the ongoing activity and thus 'voices' of a background that is typically taken for granted. Breakdowns in the context of critical incidents are, of course, 'accidental' and unexpected and they can be more or less serious and contextual. But, they can stimulate reflection and thus disengage knowledge from solid practices and routines.

In designing such an interpretivist inquiry into tacit knowing in the realm of routines, there are three important questions that need to be addressed. First, what and who is investigated; second, how the data are collected; and third, how the data are analyzed. This thesis investigates tacit knowing in the context of organizational routines and for this I have sought to identify organizations and participants that have the potential to yield rich and reliable data. Data have been collected using informal discussions, company documentation, and formal (largely unstructured) interviews with twenty participants operating within two public-owned companies in the UAE. Data were analyzed using an

iterative and inductive approach, going back and forth between the empirical material, the emerging interpretations, and the literature. The analysis of data was intended to answer the following question: *how breakdowns (accidents or surprises) in practical engagement of the participants in their daily routines altered their understanding of the practices involved in enacting these routines*. It is believed that the chosen methodology represents a coherent framework that supports the research aims of this thesis. The following Chapter (Chapter *Five*) provides the evidence from the analysis of the data in relation to tacit knowing in organizational routines.

CHAPTER *FIVE*: ANALYSIS OF DATA

5.1 INTRODUCTION

At the end of the previous Chapter (Chapter *Four*, Section 4.5) I provided an overview of how the data have been analyzed. In this Chapter, I present a detailed analysis of the data and the major findings of this research. The retrospective, largely unstructured interviews that took place with 20 managers, senior managers, directors, and vice presidents in the two organizations were used to understand how they have dealt with critical organizational experiences in the face of changing routines and organizational practices. Consistent with recent work on organizational routines and the role of 'talk' and 'conversation' (Dittrich et al 2016) in changing routines, my intention was to *understand how breakdowns in practical engagement of the participants in their daily routines altered their understanding of the practices involved in enacting these routines*.

The analysis of the retrospective interviews of participants who have/are involved in organizational routines is important in that the capacity for routines to change from within is rooted in part in people's ability to "remember the past, imagine the future, and respond to present circumstances" (Feldman and Pentland 2003: 95). How participants discuss or 'talk about' routines has been shown to enable collective sensemaking (Weick et al 2005), collective learning (Rerup 2009), and, more generally, collective reflection (Garud et al 2011). Feldman and Pentland (2003: 95) have also emphasized the role of self-reflection in routines change when they assert that "[organizational routines] entail self-reflective and other-reflective behavior". Therefore, the self-reflective accounts of participants who engage in routines have provided evidence of how the past has been construed, what the future should be, and how the present can be changed in order to achieve this. Thus, the narrated self-reflective accounts of breakdowns in routines provide an important access

to the process of change and attempts to answer *why* and *how* routines change in organizations.

Careful inquiry into critical incidents brought forward instances in which individual practical activity in organizational contexts became an issue for reflection and change in relation to organizational routines. Participants discussed, in varieties of length and detail, their experiences in their organization, they described the incidents they faced in their current job (but not necessarily their current roles), they attempted to explain and describe their actions and re-actions before and after the incidents occurred, and they have attempted to synthesize and interpret their learning from this process. In line with previous research on critical incidents or more broadly, critical organizational events (Cornelissen 2012; Jordan 2010; Mantere et al 2012; Isabella 1990), participants viewed these as moments of unbalancing established routines and evoked thoughts on the part of organizational members by their very nature.

The interviewed participants discussed their experiences in the organization when they engaged in particular routines. These routines that pertain to both *ostensive* (the collective perception of what the routine is – or, ought to be – Feldman and Pentland 2003: 101-102) and the *performative* aspect ('the specific actions, taken by specific people, at specific times when they engage in organizational routines') have been broken down and the critical incidents provide insights in the areas of these disturbances in organizational experience. The analysis of data centers on four routines that were surfaced during the interviews, namely, *Hiring and Promotions, Rebranding*, *HR System Implementation*, and *Customer Services*, and were discussed by participants in relation to their respective roles. The analysis of the critical incidents revealed that within these

broadly defined ostensive routines (i.e. the abstract, collective understanding of the routine), a number of reasons have occurred that challenged the enactment of the performative aspect of the routine involved. For example, the *Rebranding* routine was characterized by lack of communication and resistance to change by those who participated in the enactment of this particular routine.

The findings indicate that the breakdown of a particular routine is connected to three interrelated areas that potentially reveal the role of tacit knowing in changing routines. As it was argued in Chapters *Two* and *Three*, the ability of the individual to connect effectively subsidiary particulars and focal targets is the major aspect of the structure of knowing. As ostensive routines represent the abstract 'patterning' (Feldman 2016) of the actions that such routines comprise of and performative routines represent the set of enacted actions that are put together in order to carry out the routine, similarly, focal targets represent the focus of our actions whereas subsidiary particulars represent the silent integrations that contribute to the action itself. The ability of the individual to integrate these actions is of crucial importance. The analysis revealed that participants in these organizational contexts fail to integrate their actions in three areas:

(a) Integrations related to one's own identity, roles and responsibilities;

(b) Integrations related to the use of tools, objects or other artefacts; and

(c) Integrations related to others and various relationships.

The Chapter unfolds as follows: in the next section I describe the findings from the interview data and internal company documentation. This is followed by a description of four routines that participants' accounts (mostly) concentrated on, i.e. *Hiring and Promotions, Rebranding*, *HR Systems Implementation*, and *Customer Service*. Section

5.3 establishes the link between the breakdown of routines and the breakdown of tacit knowing. The Chapter concludes with a summary of the major findings.

TABLE 5.1 OVERVIEW OF FINDINGS: AREAS OF BREAKDOWN IN THE TWO ORGANIZATIONS

Areas of Breakdown (***Failed integration of subsidiary particulars and focal targets***)	**Routines**			
	Rebranding	***Hiring and Promotion***	***HR systems (and their implementation)***	***Customer Service***
Integration with one's own identity, roles and responsibilities	"There was a lot of resistance towards this change; as you know change is something that people find very hard to accept because when they are moving with the flow it is fine but when they would move against it… this is why people resist any changes. It is not very easy for that to be managed"	"The problem is that the specific manager had just come to the country [one year in the company] and he didn't understand the culture or the rules and regulations here. He is like these types of managers that don't understand the local people, especially the educated ones, and that they have the right to get the opportunities not because we [they] are locals but because we [they] studied, they have been well educated in the best Universities here [UAE] and abroad".		"Once I joined the company [and the specific department] I was shocked by how they were handling customers and the way the current system was working. Customers were handled randomly; they were standing there like they are going to watch movies, like they are waiting in a queue to buy tickets for a movie… It was honestly shocking and unacceptable; this is a government entity, it should not be like this".
Integration with others and various relationships	"I would like to say it is [partially] lack of communication. As a team we assumed that all the decision makers were aware of the details. Because when we forwarded this proposal for the change or recommendation we	"We are a modern organization, a modern business, and therefore our evaluations should be based on best practice from the best businesses. But managers here want to call 'M' a global company but they pay little attention to how they perform evaluations".	"Quite honestly, we have a lot of problems with communication [in the organization]. I worked with international companies around the world and I can say that they focus on communications much more than we do. Government- or semi-government-owned	"[In our organization] you have to do what the boss wants you to do. You have to bend the rules, break the rules, go above or under the rules, no matter what, you have to do what they say, even if your integrity is in jeopardy".

	assumed that all information has been shared with everyone. They haven't, and we could not check to see if everything has been communicated. We should have communicated more ourselves to see whether the details are known to the decision makers"	"we had faced a lot of problems and what we realized was that the main issue started from the people in charge in the departments surrounding us. Those people are uneducated and they have been in the company for ages so they didn't want to hire educated people to replace them. They are also concerned that in 5 years-time those educated people are going to take their places".	companies or even some private local companies don't focus on communications as I think [they] see these as 'soft' elements and they don't put a lot of value on that; when you advise them about it, most of the times they ignore you"	
Integration with artifacts (objects or tools)		"After I graduate from my MBA I will get a good position here which will match my degree. Unfortunately, that did not happen. I don't think it is because they break a promise… I think it is because they have their own ideas of who will be promoted and who will not. I know this, they don't take the policies very seriously in here"	"I find it rather embarrassing that we are still working [in almost every department of the organization] with papers and pens; we are characterized by slack… we must be using the latest technologies, electronic government, and networks just like the rest of the world. The reason was that people were worried of losing their jobs because of moving to new electronic generation or technology. When you have electronic government in place everything is transparent".	"When a phone call comes in, you have to judge the customer's problem whether it is a serious matter or not and then follow a particular set of procedures. In one phone call, I judged the problem not to be very serious and I told the customer that I cannot help him and he has to call in the morning to finish with this problem. The customer was not satisfied and I told him we got rules and that I cannot skip the rules and that if I could helped him I would have done it. He got angry…".

5.2 THE BREAKDOWN OF ORGANIZATIONAL ROUTINES

The analysis of the interview data yielded important insights in relation to organizational routines, their understanding by interviewees, the ways that they have been broken down, and their re-establishment (or otherwise) in the organizational context. Particularly within the context of critical incidents – or 'key moments' as some of the participants referred to – the analysis revealed that the narrated organizational accounts were rather complex events or sequences of events that unfolded over a period of time, and in cases, not easy to negotiate their boundaries. The focus on critical incidents as salient moments in individuals' organizational experience is in line with previous research (Cornelissen, 2012; Jordan, 2010) that treats these as breakdowns in practice and ascribes significance not only to the individual who experiences them, but also to the organizational level due to the power of these experiences in changing practices and routines. Critical incidents can be construed as 'unprecedented events' which account for learning processes in the ways that experiences contribute to changing patterns of thinking and acting in organizational contexts. They are also individual retrospective and evaluative judgments of events which one way or another have had significance for the individual who experiences them. Overall, the critical incidents narrated by participants were not isolated, discrete moments but a mix of mutually influencing instances that were construed as arrival and departure points in their organizational experiences. As a result of experiencing critical incidents, in many cases, there appeared to be a change in perception, awareness, and activities of those involved.

As indicated in Chapter *Four*, the intention behind the interviews was to identify instances in which participants' understanding of a particular practice or a routine and its outcomes

had shifted following a breakdown (whether major or minor) in the performance of the practice/routine itself. This has meant that the focus of the interviews was not centered exclusively on ostensive and performative routines and how participants understand them, but more generally on the performances that constituted these routines. Only after the fieldwork was completed and the data had been gathered, there was a realization that the generic framework of routine research may provide a foundation for description, explanation, and analysis within which breakdowns occurred in organizational practices. Put differently, instead of asking interviewees to analyze and explain breakdowns (in the form of critical organizational experiences) that occurred in the understanding or performance of a particular routine, the focus had been on each individual's account of breakdowns in their organizational experiences and the impact of this in their understanding of the practice in which they participated.

Therefore, the interpretations of what constitutes an organizational routine and the definition of ostensive and performative aspects of routines were not discussed during the interviews but were negotiated during my observations of these routines and informal discussions with interview participants in the two organizations. During these discussions, participants engaging in their day-to-day activities were able to explain which one of their performances contribute to which overall (ostensive) routine. For example, in the Marketing department of one of the organizations, a number of meetings were called upon to discuss the proposals of a new name for the organization. These meetings were part of the ostensive routine of 're-branding' in which although the activities that contributed to these routines were easily distinguished, the overall understanding of the routine was not entirely clear in its abstract and generalized way.

Despite this, participants' narratives centered on their organizational experiences that in some way (major or minor) had been disturbed and the resulting breakdowns were considered as critical in their learning and understanding of their organizational life. In what follows, I attempt to elaborate on four routines most participants referred to. It is important to note that these critical incidents were important to the participants at the time of this research and the context in which they took place.

5.2.1 Hiring and Promotions

During the field study in both organizations, there was a topic that was rather frequently brought in conversations (typically amongst colleagues who were considering one another as friends). That was related to promotions (and other company rewards) and the ways that the companies acknowledged individuals' service in the organization and rewarded employees that deserved to take a better position in the company based on their contributions and years of experience with each organization. Both companies had a set of policies and rules that were explicitly stated in various company publications (e.g. *Policies and Procedures* Manual and the *Staff Book*) and they were available to all employees not only during their orientation time with the company in the form of presentations and open discussions – particularly concerning new comers to the organizations – but could also be accessed through the company's intranet pages at any time during working hours (only available from within the company's system).

In their *Staff Book*, both companies had set out explicitly their policies related to the conditions and process by which employment and promotion takes place. For example, the 'Employment Policy' section of the *Staff Book* (*internal company publication*) at company '**R**' was referring to areas such as 'Equal Employment Opportunity',

‘Employment Eligibility Verification’, ‘Outside Employment’, ‘Company Ethics’, ‘Conflict of Interest’, ‘Nepotism’, ‘Open Records’, ‘Position Announcements’, and other interrelated areas of interest for both potential and current employees. This was followed by a section on the ‘Terms of Employment’ (with areas such as ‘Status and Records’, ‘Probation Period’, ‘Performance Evaluations’, ‘Personal Data Changes’, ‘Access to Personnel Files’, ‘Duration of Contracts’, ‘Procedures for Contract Renewal’, ‘Resignation’, and ‘Termination of Employment’). Moreover, the publication included a ‘Promotion Policy’ section which included an ‘Overview of the Promotion Policy and Statement’, ‘Eligibility’, ‘Implementation’, ‘Procedures of Promotion’, ‘Responsibilities of the HR Manager’, and ‘Effective Dates for Promotion’.

Hiring and promotions can be considered as ostensive routines, in this context, since the abstract rules and general idea of what the routine entails take the form of standard operating procedures, norms, and artifacts (e.g. written hiring procedures) (Feldman and Pentland 2003: 101). However, understanding the ostensive aspect of a routine is not sufficient in telling participants in organizations how to execute the routine effectively. How to do so requires performances and these are the specific actions that people take when they are engaging in organizational routines. Particularly hiring as a routine has been discussed in the literature of organizational routines by Feldman (2000), Feldman and Pentland (2003), and Rerup and Feldman (2011). In their interviews, a number of participants referred to instances where both their understanding of the process of promotion (ostensive part) and the process itself (performative part) within the organization had been broken down because of a perceived lack of transparency from the part of the organization and little regard of the rules and regulations surrounding

promotions. One manager (Senior Financial Analyst) started explaining how her qualifications and years of experience have been overlooked by the company's management when her promotion to a new position was due. As she described:

> "I finished my bachelor from the University of Sharjah (UAE) and then I stayed at home searching for a job. I had a good work experience for 7 years. I started at the beginning working in hotels for 2 years and then I moved to real estate industry for another 5 years. At my current job I got a chance to study MBA (FT) in Australia for two years as [my employer] offered me a scholarship to do that. I had been promised [by a senior manager in the company] that after I graduate from my MBA I will get a good position here which will match my degree. Unfortunately, that did not happen. I don't think it is because they break a promise… I think it is because they have their own ideas of who will be promoted and who will not. I know this, they don't take the policies very seriously in here".

An important claim that this particular manager makes with regards to the promotion routine relates to her understanding of the promotion as something that is not so much bound by company policies and regulations as it is down to the management to make choices regarding who is to be promoted and who is not. Such a claim has also been confirmed by other interviewees who expressed a general dissatisfaction with the ways that these policies where utilized by senior management. Some of them, however, understood that managerial intervention and decision making regarding promotions is important as it is the responsibility of the line manager, his/her recommendation for the respective employee (it could be positive or negative), the yearly evaluations of the person who has applied for the promotion, and the years of experience within the company that, to a large extent, determine the outcome of the application for a promotion.

As indicated above, these policies are also explicated in the company's publications and leave little room for misunderstanding. One of the areas of concern, however, relates to a particular section in the *Staff Book* which refers to managers' responsibilities in the process of promoting employees:

> "Managers who are keen to promote staff members in their respective areas, they need to pay particular attention to past annual performance evaluations. These documents indicate prior performance levels and accomplishments in the department demonstrating, for example, how effectively the tasks assigned were completed" (*Staff Book* – *internal publication* – private and confidential).

It follows, therefore, that for a current employee to be promoted the managerial decision based on past evaluations is of crucial importance. Another area of contention, however, arose that relates to the company evaluations of staff and how this had been carried out. For example, a number of participants referred to a lack of transparency in the evaluation process and that some of the areas of work are not being reflected in the annual evaluation documentation whereas other areas are. In addition, participants felt that the annual evaluation is too subjective from the point of view of the manager who is delegated to carry out the evaluation and rather than concentrating on the actual work carried out by the employee, the focus remains on the employee him/herself. This has created tension at times as people felt that the evaluation is not reflective of their work and the tasks accomplished by the concerned employee in the past year. One particular manager took this a step further when he argued that the company's process of evaluating performance is not up-to-date or up to international norms. As he explained:

> "We are a modern organization, a modern business, and therefore our evaluations should be based on best practice from the best businesses. But managers here want to call 'M' a global company but they pay little attention to how they perform evaluations. Other companies use the 360 degree approach like other big companies in the world but here we are still using the pen and paper approach where the manager looks at you and makes the evaluation on a paper".

Clearly for this manager the process is person-based rather than performance-based and the way it is carried out not particularly suited with what the company is actually emphasizing to be in its internal and external audiences. Another manager put this into a different perspective when she argued that there is a difference in the cultural perspective between managers and employees. She referred to this in the following way (IM – Assistant Financial Controller):

> "The problem is that the specific manager had just come to the country [one year in the company] and he didn't understand the culture or the rules and regulations here. He is like these types of managers that don't understand the local people, especially the educated ones, and that they have the right to get the opportunities not because we [they] are locals but because we [they] studied, they have been well educated in the best Universities here [UAE] and abroad. So he didn't understand that but he thought that I am a manager here and I will do what I want. He had already identified two locals to be put in some low positions and this may have solved the problem – you know – they [locals] will not complain".

The concerns raised by this particular manager are not totally unfounded. A similar point of view was shared by a senior manager in company '**M**' who had been involved in the selection and hiring of people in the last five years and expressed how some policies and procedures changed in the last few years because of an apparent disconnection between managers and employees. As he explained (EM – Managing Director):

> "One important incident that I faced in the organization relates to the under-employment problem and, I believe, it is one of these problematic cases worldwide. In terms of employment issues we have here many educated people whether they have Bachelors, Masters or PhDs. Before this, however, we had faced a lot of problems and what we realized was that the main issue started from the people in charge in the departments surrounding us. Those people are uneducated and they have been in the company for ages so they didn't want to hire educated people to replace them. They are also concerned that in 5 years-time those educated people are going to take their places. Therefore, it is better to avoid hiring them inside now so it is better to hiring expatriates due to lower wages. Plus, expatriates can be intimidated [sic] and worry about their jobs. For example, expatriates can take 5,000 AED whereas locals/Emiratis will take 10,000 to 15,000 AED for exactly the same job and also they might be well educated and this can pose a serious threat to the position of the one in charge".

This manager here acknowledges a significant problem in the process of hiring individuals in the organization. A lot of previous appointments in the company had not been made on the basis of qualifications, experience or education but, as he suggested, "on a personal basis – you could bring into the company one of your relatives without going through HR; it was all about friendships and exchange of benefits". This has meant that a serious problem of proper ethical conduct in the workplace was now addressed. A number of participants referred to this – more or less directly – and expressed dissatisfaction with the way that managers have been performing the routine of hiring or promotion. One manager in particular raised the issue in a more direct way when she narrated the following:

> "Management actually fabricates things, they keep creating things and they try to interrogate you or make things against you in order to look bad in the organization. This is what was happening in

> the organization because people are not qualified, first of all. When they find somebody who has a diploma from [names a particular higher educational institution in UAE], they give him or her a really high position. Clearly, that individual will do anything to maintain his/her job because they will not find a job like that. They [management] also change their salaries, from 40,000 AED to 80,000 AED monthly. Do you think they are crazy to lose this money? For who? For me or for the country? They will try to maintain their position as much as possible regardless of any ethical or unethical considerations. They will do whatever it takes".

Probing participants to delve deeper into the reasons for management to, sometimes, conduct its responsibilities in a less ethical manner, a number of participants referred to a word that is commonly used in the Arab countries (particularly so in the UAE and more so in the Dubai area). That word is, 'Wasta', which commonly translates as something such as authority, influence, political (or other) power, or a combination of these things. The common English expression 'it is not what you know but who you know' is perhaps the closest equivalent of 'Wasta'. Having varying degrees of 'Wasta' is regarded as a way to surpass bureaucratic or official procedures, speed up business transactions, waive traffic fines, save one from consequences of dubious activities, or achieve hiring and promotion in a particular job. Although the word itself appeared only twice in the interview transcripts, a number of participants referred indirectly to it when they suggested that many people used their 'connections' (an indirect reference to 'Wasta') to get favorable treatment in the company. This has taken the form of hiring particular individuals in the organization without the necessary qualifications and experience, promoting others who have not been particularly strong in their yearly evaluations or even referring to instances

where organizational members have avoided negative consequences of actions in situations where punishment should have been enforced.

Thus, the apparent dissatisfaction expressed by various managers with reference to the routine of hiring and/or promoting individuals in the organization brings forward a 'clash of cultures' not only between expatriates versus locals but also between old versus new ideas, actions and practices. It was observed during interviews, and it was confirmed during the researcher's internship in both research settings that whenever younger (in terms of age) managers wanted to propose or make changes to policies, procedures, and practices, the reactions from older managers was often quite negative. This resistance by management to change was received with frustration and, at times, anger by younger managers who believed that the 'archaic' management style of dealing with staff members had to be overcome in some way. It was also apparent that a number of staff members had been complaining – mostly amongst themselves and to one another – about the ways that expatriate managers treated them in various situations. In other words, they have felt that being an expatriate in a high position within the organization will make a big difference for subordinates who are mostly Emirati nationals.

Responding to the growing demand for Emirati/local participation in the workforce of UAE, the Government of UAE launched the 'Emiratization' initiative which is dedicated on the inclusion of Emiratis in the job sector, particularly in the country's private sector. The aim of the initiative is to increase the number of Emiratis in the job market and their contribution to the country's economy (www.government.ae). According to Haak-Saheem (2016: 2), employment market characteristics in the UAE are unique as the ratio of nationals to expatriates is one of the most disproportionate in the world. Less than 20

percent of UAE's total population comprises of local citizens which makes them a minority. Al-Waqfi and Forstenlechner (2014) noted that the situation in the country's private sector is even more concerning as almost 99 percent of all employees are expatriates.

The concept of 'Emiratizing' the country's workforce is based on three core tenets (Haak-Saheem, 2016: 11): first, the long-term target of diversifying the economy and reducing the overt reliance on the capital-intensive oil and gas sector; second, overhauling the education system in order to align education to market needs; and, third, implementing a range of labor market intervention measures such as quotas and allocation of jobs to local people in order to reduce reliance on international labor (it is worth noting that any termination of a local employee's contract must be approved by the country's Ministry of Labor).

However, the initiative faces challenges on two fronts: the first relates to how to meet young Emirati's high and often unrealistic expectations (in terms of salary packages and other rewards); the second relates to how can anyone convince expatriates on generous salary packages that they have a responsibility to assist in a program of which its success will most likely lead them to redundancy (https://knowledge.insead.edu). As it is already documented in the national press and international forums, there have been many cases of young Emirati graduates in particular who have been employed by private companies only as 'Emirati faces'. Their employers have also raised concerns that although they have spent time and money training Emirati staff, these have left their companies for better-paid jobs in the public sector.

The implications of the 'Emiratization' initiative therefore can be said to have an impact on the company in this research. A few months after the completion of the fieldwork, the company put forward a document that was circulated in internal publications for review and eventually published in the website stating clearly their commitment to the 'Emiratization' initiative. Under the 'Careers' section, the following statement appeared:

> 'With knowledge sharing opportunities and working alongside expert leaders within the 'M' Group, UAE nationals will benefit from the hands-on experiences and challenging projects that contribute the [a particular Emirate's] infrastructure. These opportunities, combined with dedicated professional planning, help accelerate the growth of UAE nationals, and eventually achieve our long-term vision of creating a globally competitive workforce'.

The preceding analysis brings to the fore a number of important issues related to the ways that this particular routine is understood and/or performed. In this particular routine the breakdown begins at the ostensive level and then it is diffused down to the performative. Standard operating procedures, policies and rules appear to be in disharmony with current practices and the ways that the routine is actually performed by those who are responsible to execute it. In addition, the ways that employees working in the company understand the ostensive part of the routine is in contrast with the actions managers take when they perform it (the performative aspect). This creates tensions not only between managers and subordinates but, more crucially, between expatriates (managers) and Emiratis (employees). Crucially, however, the analysis revealed a deep cultural problem that was brought forward during interviews (and it was observed during the researcher's internship at the company): hiring and promoting individuals was not so much based on the 'right' qualifications and experience of the candidate but on the 'right'

connections ('Wasta') within and beyond this particular company. The initiative for 'Emiratization' has still a long way to go in order to be properly implemented and this can lead to further tensions in the future.

5.2.2 Rebranding

During the field study in one of the organizations ('**R**'), there was a lot of discussion amongst colleagues that a rebranding exercise for the company is in process. This was also confirmed during the interviews as some of the participants referred to it as a critical organizational experience from their own point of view. The decision for re-branding of the company was initiated by the board of directors and communicated to senior managers shortly after it was agreed upon. The responsibility of this activity was allocated to the Marketing Manager in the company who although had many years of experience in marketing and PR departments in USA and France before joining the current organization, he had not been engaged with such an activity during the last four to five years since he had been in his current job. This particular manager had a fair understanding of what a re-branding exercise would involve, what activities should be undertaken to complete it, and how these activities needed to be coordinated to achieve the best possible outcome. He explained that these activities would range from graphic designing to market research and encompass many hours of hard work in order to achieve an outcome that senior management would appreciate and eventually approve. However, one of the initial concerns he raised in a conversation before the formal interview took place was centered on the inexperience of his staff in doing this exercise effectively and in a timely manner. This is because, as he explained, most of his team members had never been involved in an activity of this type in the past which he

considered as a drawback in getting this exercise completed. In short, for this particular manager, previous experience in similar exercises would have made the process smoother and easier to complete.

During the interview, this particular participant explained in more detail what he recalled as the first critical incident during his time in the company. He said that the name of the organization did not reflect what the company is actually doing or is interested in doing in the future and this posed serious concerns in senior management about the current and future status of the company. As he explained:

> "As you know we are going through rebranding exercise because we are an investment-based authority which means that we manage industrial parts [in this Emirate] and free zone facilities. So what happens is because of the name in initial years [names the company] we used to be involved in different investments as part of government [of the particular Emirate] such as investments in different infrastructure projects, real-estate projects, etc. Now the focus has been shifted completely to include investment promotions, especially, promoting industrial investments into [the Emirate]. So, when we talk about [name of the company], it doesn't fit well with people's perceptions of what we really do".

At this stage, it appears that the participant identifies that the name of the company has been misunderstood in people's minds and the perception of what the company actually does is not clear. In other words, the participant was able to identify a breakdown which relates to the company's identity and its competitiveness in the market. Another participant identified why the rebranding of the company was, at the time, necessary. As he (IR – Principal Business Associate to the CEO) noted:

> "[The company] really exists to promote industries in [the particular Emirate]. We have at about 30 million square meters of land of which we invite multinational companies and local companies in order to come and set up their base and operate from here. So, although we are called [name of company] investment authority, a lot of companies globally, especially, hedge funds in New York think that we are a sovereign wealth fund of [the Emirate] sitting on billions of dollars waiting to invest in all parts of the world. Therefore, we will get emails and phone calls from those hedge funds and other large mutual funds pitching their services to us; basically telling us that we give you x million dollars and we can help you invest that in different sectors globally and we can promise you can make a return of 20% - 25% per annum and we share profits. So the problem here is that we are not [names the company] investment authority in this sense. So this is a critical incident that happened in the past and it is something that continues to happen today because a lot of people think that we are something which we are not".

A number of participants discussed that the re-branding of the company is necessary because the company needs to clearly differentiate in relation to other similar companies, create a brand identity that reflects the activities more accurately, and communicate these to the target audience. As one of the participants revealed, "We knew that we had to call ourselves something else but we didn't know what it was". Therefore, the participants have realized the problem and, as the interviews unfolded, attempted to explain the difficulties associated with getting this exercise finished at the most efficient and effective way. The critical incident, in this sense, becomes the starting point for exploration of both performances and outcomes in the participant's experience in the organization. Thus, the breakdown (the identification of the problem) pertains to the organizational experience which the participant referred to during the interview. A series of obstacles that the

rebranding exercise had been facing was then exemplified. For example, it was narrated that a number of steps were taken in order to complete the project – the performative aspects of the routine – such as market researches, consideration of different scenarios, analysis of different concepts and the new name, tags, elements, and brand identity were drafted and presented to the management of the organization. After the presentation, however, a number of managers did not feel comfortable with the idea of this change. When a participant was asked to elaborate on the reasons for this, he said:

> "There was a lot of resistance towards this change; as you know change is something that people find very hard to accept because when they are moving with the flow it is fine but when they would move against it… this is why people resist any changes. It is not very easy for that to be managed".

Further exploration into this issue revealed that this resistance was not totally unfounded and that there were some important elements that were missing or were poorly identified during the presentation of concepts, ideas, and activities to the other managers. Therefore, participants started to reflect further on how this exercise will be most beneficial for the organization and for their own roles in the company. After many rounds of dialogue and conversation amongst team members in the marketing department and taking on board the feedback from the first presentation, a number of new elements were identified and analyzed in order to be more transparent on why the rebranding is necessary. As the marketing manager explained:

> "We prepared a case study. What is the scenario now? What are the major challenges that we will face? For instance, looking at a current business card you can see that there are many challenges. First, it is not very straightforward what we actually do as an entity and a person who

> doesn't know about us will get confused. Second, the name doesn't speak anything about our identity or reflect on any kind of identity. Third, the colors and the combinations… then, it is our logo… it is very conservative and traditional; we are generations behind the current age. We did not get these explained first time [in the first presentation]".

In retrospect, it appears that participants become more aware of what the omissions have been and what challenges had to be overcome in order execute the specific project effectively. This implies that from the narration of this critical incident, the participant identified the breakdown and the possible reasons associated with it. Prompted to reflect even further during the interview, participants discussed that the major problem of this exercise and the way that it unfolded relates to an apparent lack of communication which is not only evidenced in the team that was working in the rebranding exercise but more so within departments and units in the organization as a whole. As one manager explained:

> "I would like to say it is [partially] lack of communication. As a team we assumed that all the decision makers were aware of the details. Because when we forwarded this proposal for the change or recommendation we assumed that all information has been shared with everyone. They haven't, and we could not check to see if everything has been communicated. We should have communicated more ourselves to see whether the details are known to the decision makers".

Further reflection led this participant to identify a larger organizational problem, that is, lack (or, inappropriate means) of communication. Through his narrative, the participant was able to connect problems of communication with other areas of organizational activity and attribute these problems to the culture of the company. For example, he suggested

that the team working in the project ‘misjudged’ some of the deadlines as well as the timeline for activities to be completed and this led to more effort being put in the project by the manager. Importantly, for this manager, lack of communication between team members and between different departments played a significant role in the way that the project was carried out and the time that it took to be completed.

After three months of deliberation and discussions in the organization, the company eventually did change its name by replacing the word ‘Investment’ that appeared in the initial acronym, to the word ‘Industrial’. Even if this may be considered as a rather small change (the acronym of the company’s name remained the same), managers were hopeful that this would address and reduce (or, at best, eliminate) the difficulties and challenges that the company faced with its identity and brand in the past. As one participant commented, “I think this [the change in the name] will solve the problems we had with other financial institutions and set us apart from similar companies in the field”. The new company logo was also approved by senior management and changed forty five days later.

What this incident tells us about the breakdown of organizational routines? The identification of the breakdown, namely, the company’s identity and place in the market, is very important in revealing the various steps that this process went through before it was finalized some four months later. The identification of the breakdown led the participants to identify that the company had to go through a rebranding exercise. Rebranding itself may represent, in this case, the ostensive part of the routine as it is related to the abstract, generalized idea of what the routine is and how it may be carried out most effectively. Since only the marketing manager had been involved in similar

exercises in the past, his understanding of the ostensive routine is crucial in communicating its other performative aspects to the team that the responsibility laid with. Here the manager in charge of the project has construed the steps that were required in order to execute the routine most effectively. These steps, namely, market research, scenario planning, analysis of names and concepts, and so on, can be said to belong to the specific activities that comprise the performative aspect of the routine. However, these activities were also disturbed in some way. For example, the identification of communication gaps amongst team members and the management team, coupled with and apparent lack of clarity of information distributed within the organization, led to a number of changes and amendments of the process in which the execution of the routine takes place.

Therefore, of the four components of the definition of routines that Feldman and Pentland (2003) put forward and include repetition, recognizable patterns of action, multiple participants, and interdependent actions, only the latter three have confirmed that 'rebranding' may constitute an (ostensive) routine. This is because, the former component, repetition, has not been exhibited before in the organization but the manager involved in exemplifying the routine has been involved in this very routine in different companies. Nevertheless, rebranding as an ostensive routine may be a less frequently performed one, or a routine that has not been practiced for long time by the organization. It remains, however, a recognizable patterning of actions and its various performances can be understood differently by many people in the organization.

5.2.3 HR Systems (and their implementation)

One of the critical incidents narrated by a number of participants was concerned with the ostensive routine of HR system implementation and relates to a number of other areas in the organization that the use and implementation of new technology becomes the point of attention and reflection. The use and implementation of a new system in any organization can be considered as an ostensive routine as it is abstract in nature, comprises of various standard operating procedures, and involves a number of participants in its setting up and execution. Like all ostensive routines, the ways participants understand this routine varies across different roles and responsibilities within the organization. For example, an IT manager's responsibility and role is centered on creating, developing and maintaining the system whereas an HR manager's responsibilities and role will be related to the utilization of the system in assessing individual performance. A finance manager, too, will use the system in a different way with the purpose of assessing the costs involved in the development and maintenance of the system for the whole organization. Performing the routine, on the other hand, comprises of the specific actions and the specific people who are engaging in the routine itself. In this case, the way that the new HR system is used, for what purpose, and to what effect, is part of the overall performance of the routine.

One of the important figures who had been assigned to implement and use a new HR system in company '**M**' was GM who was holding, at the time of the field study, the position of Vice President of Human Resources in the Petroleum division of the organization. In his capacity, this manager was assigned the responsibility to oversee all aspects related to the establishment of the new system in the company from its initial

stage, i.e. finding the most suitable system for the company, to its final use, i.e. use the system to assess employee performance and link it to rewards at the end of the year. He started his narration of the critical incident in the following way:

> "The first incident that I can share with you is a recent project that we were working in as we have faced difficulty with shareholder(s). We designed a new [HR] system that is a little different than what used to be at the corporate-level. This new system fits more or better if you like with our industry and knowledge of the company".

When prompted to elaborate on the reasons behind the need for this system to change, he suggested that there was a desire from senior management (President and CEOs) of the organization, in this particular division, to move to more standardized ways of monitoring and controlling employees' compensations, benefits, and rewards, and it was believed that the current system used until that point was not doing what senior management wanted it to do. This manager, however, was not able to understand fully – or, at least, he did not share this information during the interview – on the motives and expectations of the management behind such a move towards a new system implementation but he was able to articulate the process by which the implementation of the new system would take shape. One critical reason that he suggested was related to the purpose of the new system and that it needed to be understood and communicated clearly by all parties involved. If the purpose of the implementation was clear and communicated appropriately to senior management of the company, it would be much easier to facilitate the move to the new system with little or no resistance by lower management, administrators, and employees.

Another important reason that he referred to was related to the *communication* of the purpose of implementing the new system in the most effective way. It is important to note at this point that communicating various aspects of work within the organization appeared to be rather problematic as it was used by a number of participants who were interviewed during this study. It was also noted during the field study that one form of communication, for example the use of email, was not used as often as one would expect in a company of this size. Rather, most communication was done using the telephone (internal phone calls) in order to convey simple or more complex matters to other colleagues. In addition, a number of employees preferred to discuss matters about work on a face-to-face basis rather than using the email to communicate with other colleagues. When prompted to explain further why he believes that there is a problem in communications within the organization, the manager said the following:

> "Quite honestly, we have a lot of problems with communication [in the organization]. I worked with international companies around the world and I can say that they focus on communications much more than we do. Government- or semi-government-owned companies or even some private local companies don't focus on communications as I think [they] see these as 'soft' elements and they don't put a lot of value on this; when you advise them about it, most of the times they ignore you".

The manager continued his narration about the implementation of the new system. After referring to the purpose of the system and the communication of the purpose, a third reason he discussed was related to the quality of feedback received by managers and employees. He explained that for the process to be effectively communicated, it needed to be disseminated and discussed in meetings at senior managerial level. After months

of continuous dialogue and involvement in the process for both parties, the received feedback has not always been of the desired quality and, on occasions, it has not been of value at all. When the manager was asked to elaborate on why he thinks that this is important for the project implementation stage, he replied:

> "When we came at the end to present it to them [senior management] they already know it and they feel part of developing it because they came and helped us with their feedback every time we have done something. This was done for two reasons and it was intentional: The first reason was that we wanted to get their feedback and have a few more eyes looking into what we are doing. The second reason is that we wanted them to get involved in order to be easier at the end for us and for them".

At the end, the execution of the implementation of the new system was (supposed) to be based on certain 'principles' that need to be followed in the implementation of any project within organization '**M**'. These principles were this manager's reflection of the many years in HR-related jobs and his particular experiences in company 'M'. The manager was able to articulate his learning of these experiences and state the particular elements that he found to be rather disturbed, some more than others, during his time in the company. As he explained these involved the following:

> "[The first principle is to try] not to make peoples' lives complicated but simple and easy to use when we implement something and we try to stick to. If you don't want to make it complicated then don't make it complicated! Another principle is to get people (i.e. users of the system and other stakeholders) involved in the project early so that they can feel that they have the ownership of this and they will also feel that are part of this. They have to become advocates for the system and the project. Third principle, we don't look for what is referred to as the 'best'

> system but we look for the best fit and simplest system. We don't have to bring the best system in the world but we need to look at what would fit us now or what will get us what we want. Forth principle is timing of the implementation. We need to consider that we don't do it when the businesses are busy. Last principle, get management support such as senior leadership support and take ownership and we do this in many ways, through the communication with the CEO, through emails or town hall meetings, and so on".

These 'guiding principles' have become the steps in the implementation of systems technology within the organization after many trial and error attempts to implement various technologies within this and the other organization. As one manager said:

> "We like to think that we have a good implementation strategy here but it is never black and white. I mean that we never get it 100 percent right or 100 percent wrong because most of the times people in [the organization] are resisting new things because they think that their jobs will be affected. This is the reason but it is not true".

This is an important insight offered by the particular manager. The implementation and use of new technologies in the organization are perceived as upsetting the ordinary performance of routines. A number of other managers have also commented on this breakdown of routines and their consequences for employees from different points of view. For example, the Managing Director of Telecommunications division in company '**M**' viewed technology from the point of view of the organization as a whole and how its implementation was met with resistance from a number of employees. As he described:

> "I find it rather embarrassing that we are still working [in almost every department of the organization] with papers and pens; we are characterized by slack… we must be using the latest

> technologies, electronic government, and networks just like the rest of the world. The reason was that people were worried of losing their jobs because of moving to new electronic generation or technology. When you have electronic government in place everything is transparent; you can check everything just by one-click or do a quick survey through this method".

The ostensive aspect of the routine, that is, the effective and efficient use of the latest technologies to get the job done in the organization is not integrated appropriately due to 'fear' and 'reluctance' of staff that their job would be 'transparent' and more 'efficient'. Such resistance has meant that even attempts to force the technologies deeper in the organization had not been successful until:

> "It took us two years to implement [the new technology] because we had to hire professionals or experts in this area and we had to put a plan in order to set up a network and educate people. By doing so we saved a lot of jobs as well as money. Furthermore, we are now going within the world cycle by having almost the same services".

The implementation and use of technology is a recurring theme in the investigation of organizational routines. Like the use of any artifacts, objects or tools, its effective use depends on experience and familiarity with the action undertaken. Also, routines in this context can be viewed as *interconnected* as one may influence the other in quite significant way. For example, the use of technology affects the performance of the routine and the ways that other routines (e.g. customer service) are enacted. As Feldman and Pentland (2003: 104) note, actions within routines are interdependent as many actors involved in the routine that somehow have to 'dance' in synchronicity with other actors. The same can be said, however, for apparently independent routines and actors such as the case of participants in the use and implementation of the HR system routine and those

involved in the company's customer services. For instance, when a new technology was implemented in the organization to monitor and assess the level of customer satisfaction, it was found that the latter was very poorly perceived as there was little or no monitoring of the activities performed by those involved in the enactment of this particular routine. This was confirmed by the Manager of Customer Services in company '**M**'. As he remarked:

> "There were a lot of complains coming in about the customers service. Employees were taking the customer service not very seriously. For example, they were thinking that whether we serve the customer well or not we will get our salary at the end of the month because no one is monitoring us or no one is checking the customer service level".

And he added:

> "From here I start to find out the link between the employees and the customers on this issue. [After the implementation of the technology] I found that everyone was panicking but at the same time they started to serve the customer well. I was also monitoring them in person, sometimes by standing with customers and I realized that the level of service increased dramatically. Maybe it was the fear that I will jump in at any time and interfere but it worked very effectively".

The preceding analysis brings forward a number of important issues in relation to the ways that routines are understood and carried out in this particular organizational context. Starting again from the breakdown of this particular routine in the form of a critical organizational experience, that is, the implementation and use of an HR system, brought forward a number of significant aspects that relate to the ostensive and the performative parts of the routine. First, in relation to the ostensive part of the routine, it was found that

the new technology is understood differently by those who are working in the organization. For example, senior management is concerned more with transparency, monitoring, and control of organizational activities whereas other employees perceive the use of new technology as a means for management to interfere and instil 'control' in the everyday activities and practices. Such a difference in understanding or perception that a change may bring about in organizations is not uncommon. The divide between the management and employees has been particularly evident in the two organizational settings that this research was carried out. This may be because of cultural differences that are a common feature in UAE public and private organizations. As it was briefly discussed earlier, top management comprises of expatriates (typically British, American, or Australian) whereas middle managers are normally local Emirate citizens and thus tensions arise in the relationships of those involved in the execution of routines. There was more often than not, blame from both sides if things were not done effectively or efficiently.

Second, in relation to the performative aspect of the routine, it was revealed that the effective or otherwise enactment of a particular routine (e.g. the effective use of technology) has an impact on how other routines are carried out. For example, an individual who is not carrying out his/her duty to log customer calls in the system, may influence the ways that complains are handled and resolved by other colleagues in the same department. This, in turn, may affect the overall appraisal and evaluation of the individuals when line managers conduct the annual evaluation (typically starting the process in the middle of September and complete it at the end of December each year) based on the evidence in the form of reports provided by the new system. The interconnection of performative routines, therefore, is a particularly significant aspect in

the enactment of the routine and its appropriate execution is particularly evident in all routines that require the use of technologies or other artifacts.

5.2.4 Customer Services

A number of participants referred to the ostensive routine of 'customer services' and how breakdowns related to this have impacted organizational performance, altered meanings, and re-aligned practices within both organizations. This particular routine comprises of a number of interconnected performative aspects that make it quite complex to observe and difficult to articulate in the interviews that took place. These aspects involve, but are not limited to, listening and responding to customer complaints, updating, verifying and correcting customers' account information (including cancelling or upgrading accounts), providing customers with information about companies' product and services, assisting customers when products or services do not work as expected, identifying and escalating high priority or complex cases for resolution, producing weekly reports for management, and so on.

A number of participants described their critical organizational experiences around this routine within their respective organizations. BM (Customer Services manager in company '**M**'), for instance, identified how his understanding of the ostensive aspect of the routine had been disrupted based on his experiences of working in different organizations before he joined '**M**' in his current role. As he put it:

> "Once I joined the company [and the specific department] I was shocked by how they were handling customers and the way the current system was working. Customers were handled randomly; they were standing there like they are going to watch movies, like they are waiting in

> a queue to buy tickets for a movie… It was honestly shocking and unacceptable; this is a government entity, it should not be like this".

The breakdown of the ostensive aspect of the routine, that is, the understanding of what a 'customer service' routine should entail, has been disrupted in a significant way. His use of strong words such as 'shocking' and 'unacceptable' to describe this particular routine signifies a heightened level of breakdown in the meanings and patterns that his experience was built upon in previous working environments (before joining '**M**' he was working in a large private company). His reference to the type of entity (i.e. 'a government organization') is also important as his interpretation of how something 'should work', especially if it is a government-owned organization, denotes his experiential background with entities such as this one. When he was prompted to find the solution to the problem, he replied that what was needed is the development and implementation of a queuing system that can handle the traffic at specific times, especially during increased rush hour trading times. In what followed he described in detail the procedures that he undertook in order to make customers' experiences more enjoyable from their point of view. As he remarked:

> "The solution was to develop a queuing system that can handle all this traffic within a certain time. So we first studied other services related to telecommunication industry and we measured the time that each should take to serve each customer. [Thus], we defined each service inside the queuing system for 7 minutes of serving (each customer) and 5 minutes waiting time. So once the customer walked into our entity, he/she takes a token number and waits. The waiting time should be no more than 5 minutes, what we defined previously inside the system. If it goes above that time, there will be a late system beep which informs the supervisor of the service center. So in

that case we will try to manage it as fast as we can, and if needed, the supervisor can take action in serving the customer as soon as possible. Once the customer is called to the service desk, the starting time for the service will begin. The serving time is defined in seven minutes. But in some cases, in complex cases, or when the customer does not have the necessary documentation, it might take more but we inform the customer of what they need to have in order to complete the service".

The narration of this solution to the critical incident identified before brings forward another important element in the ways that routines (both ostensive and performative) are defined and understood. For this manager, previous experience was one way of identifying the problems of the customer service but perhaps the most important aspect of this narrative relates to how he identified the source of the solution. He was able to benchmark the new queuing system against other systems in the same industry (i.e. telecommunications) and develop a new company queuing system that takes into account waiting service times within the same sector. The benchmarking for this manager is of particular importance here. Based on his past working experience and being himself a customer in other service companies in UAE, he was able to suggest solutions to the identified problem. At the time of the study, a new draft of the benchmarking policy was circulated to managers for review and commenting. The document had set out an overview of the benchmarking policy in the following way:

"The purpose of the benchmarking policy is to ensure that [the company's] performance is comparable to national and international standards and it acts as a means of improving performance and assuring these standards. The policy also aims to ensure that the concerned departments are more coordinated and systematic in their approach to benchmarking that

> supports [the company's] overall strategic plan and is linked to its performance targets and quality improvement systems" (Internal Company Documentation – strictly private and confidential).

From the above extract we can infer that the purpose of benchmarking is the comparison of key performance and activities within the company in relation to other companies in the same industry – both national and international. This creates a starting point in the initiation of change in the organization as the comparison may reveal areas of concern that need to be fixed and adjusted to the best standards available in the industry. The manager was aware of the policy during the interview and he used this information to emphasize the importance of the department to run in the most efficient and effective way. Since the customer service routine comprises of a number of performances that sometimes overlap between departments, it was important to set the standards that all those involved in the routine can understand and relate to it when enacting it.

After many attempts and months of trial-and-error efforts, this particular manager achieved the target of getting the customer in and out of a service office in less than 15 minutes (waiting and serving time combined). As he remarked:

> "[Customers] have to be served in a quality way as best as we can; as long as we do this, I believe we achieve our target. Our objective is to satisfy our customer in terms of providing excellent services".

A recurring theme that came to the fore in the narration of critical incidents and routines were related to organizational rules and regulations. Particularly within the context of the customer service routine, one manager described how rules and regulations influenced his practice within the particular context. Within his role and capacity in the organization

(Manager of Operations in company '**M**'), he described a situation in which employees – and himself – dealt with customer phone calls. In that division, a phone call from a customer is very important as it implies that there is a problem or inquiry related to an operational matter and needs to be dealt with quickly, efficiently, and effectively. The particular manager described the situation in the following way:

> "When a phone call comes in, you have to judge the customer's problem whether it is a serious matter or not and then follow a particular set of procedures. In one phone call, I judged the problem not to be very serious and I told the customer that I cannot help him and he has to call in the morning to finish with this problem. The customer was not satisfied and I told him we got rules and that I cannot skip the rules and that if I could help him I would have done it. He got angry… The next day I got a phone call from a senior manager in the organization. He told me that a customer had a problem (yesterday) and you didn't help him. I responded to him that you have taught me that we should not do that because our department only deals with emergency situations and his [customer] problem was not an emergency problem. The manager said that I was wrong and the next day they issued me a warning".

For this manager, this has meant that although he believed he followed the protocol and the policies and rules around an incoming phone call, in that particular instance, the customer filed a complaint that his problem was not taken seriously and that the person on the phone had not considered carefully all the circumstances. Consequently, the manager's case was examined by the HR department and he was given a warning as a way of not only sanctioning his actions but also as a way of alerting other colleagues who may have treated similar situations in a similar manner. For this manager, this has been a learning curve in his experience in the organization. He was able to reflect on this

incident and make changes to his behavior and even, at times, having to go against the policy rules – or, at least, his interpretation of the policies and rules. The result from this incident for him was that:

> "Any phone call I received, even if they seem to be less important, I have tried to solve them at that moment… so I had to abandon the rules. These rules were set by the management team, not the company. Now it is different. I want the company to look good, not the (respective) manager".

The above mentioned incident reveals an interesting and, at the same time, challenging situation in the enactment of performative routines. As routines are specific in context and in time of their enactment, they are also bound by certain rules that are in place in order to maintain a consistency and coherence in the routine pattern. However, these rules may breakdown either because of an external interference (e.g. managerial decision) or because of an internal moment of improvisation and creativity by a participant who enacts the routine. Nevertheless, this can be thought of as a tension in the enactment of a performative routine between the organizational and the managerial rule enforcement. For example, what managers want employees to do and what the organization dictates what employees should do, has to be negotiated in the enactment of the routine without breaking away from established patterns of the ostensive routine. This tension in the rule-following actions of participants enacting organizational routines, especially in large organizational contexts within the UAE, should be approached with the right judgment by the participant involved in order to maintain stability in routine patterns. One manager (Financial Manager in company '**M**') was particularly revealing when he described this tension in the following way:

> "[In our organization] you have to do what the boss wants you to do. You have to bend the rules, break the rules, go above or under the rules, no matter what, you have to do what they say, even if your integrity is in jeopardy".

The word 'integrity' for this manager is very important in this context. Understanding what is required to execute a routine effectively may involve breaking away from past experiences in order to envisage a novel outcome. 'How things are done around here' is taking a new meaning for the participants involved in the enactment of the routine. As indicated above, for instance, a number of managers narrated how their past organizational experiences have helped them to envisage what actions need to be taken in order to carry out a routine in the most appropriate and beneficial manner (e.g. the rebranding routine). In this case, however, this may not suffice to get things done. Past experience becomes an issue that needs to be reflected upon and re-evaluated. Even if one has engaged in and enacted the same routine several times, there are still moments that new actions need to be carried out even if these actions mean that the individual has to come at odds with his/her personal beliefs and previously held assumptions.

In addition, the interview data revealed such moments where personal experiences have come under scrutiny by the participants involved. These are moments that relate to personal aspirations and targets that needed to be re-evaluated and re-aligned in light of new experiences and represent a very subjective element of organizational work in which what one wants to achieve through his engagement in organizational life can differ substantially from person to person. When prompted to reflect on the issue of integrity and why the particular participant felt that this affects his personal aspirations and values, the following dialogue took place:

Interviewer (**I**): Can you please elaborate on that point about 'integrity'? What do you actually mean?

Participant (**P**): Well, if you want to do something that you believe it to be right and your boss does not want it, it is a matter of integrity…

I: OK, but why would you not do it regardless of what the boss says?

P: Because you cannot. You have to think seriously about not upsetting him – he says 'no', that's it. You cannot do it.

I: You are faced then with a moral issue here…

P: Yes, you are. All the time. So you leave these [morality] back home. You come to work without them.

What the above dialogue signifies is that although there is a clearly defined aspect of work that has been disjointed, for this particular participant, its re-alignment is difficult or impossible to be achieved. In these cases, the exercise of reflection as a mechanism that allows participants to make changes to the ways that routine enactment is carried out becomes less meaningful because no matter how much one wants to change, there are forces at play that do not provide a space for the necessary change to occur.

What the preceding analysis reveals in relation to this particular routine? The data revealed and it has been observed from the researcher's participation in both organizational settings that the customer service routine is rather complex as it comprises of a number of interrelated areas and a number of departments, each of which play their own role in getting the organizational actions coordinated and consistently enacted. This

has meant that the ostensive routine has been difficult to be observed and more difficult to be analyzed. However, a number of participants talked about how their experience in dealing with this routine has impacted the way of understanding what 'customer service' means, and executing the appropriate activities that this routine comprises of. Particularly in relation to the performative activities of this routine, the above analysis indicates that participants attempted to build on previous organizational experiences – not necessarily in the same organizational context – in order to get the broken down activities fixed and up-and-running. Previous experience has also been useful in enabling participants to draw on the wider industry and identify 'best practice' in relation to how other companies in the same industry attempt to solve problems related to their customer service routine.

An important finding from the interviews was that the execution and enactment of this particular routine require personal judgments by those who participate in its execution. These judgments are important in so far as they determine and distinguish what actions are appropriate to do (or not to do) when the routine is enacted. However, these judgments and their associated actions are bound by rules, policies and procedures that can be either organization-wide or enforced by managerial intervention. When the former is the case, judgments are based on previous experiences and the knowledge and familiarity of the individual with these rules and regulations. In these instances, a protocol may be followed in the form of standard operating procedures that have little or no impact in the execution of the routine (e.g. following up on a phone call by a customer who requested a price list for particular services). When the latter is the case, however, tension arises that relates to what is appropriate and correct procedure to follow: standard operating procedures or management's suggestion? Interviews revealed that individuals

have to comply with managerial suggestions of what needs to be done in specific circumstances. As there is no unified framework for how cases should be dealt with, participants face breakdowns that relate to their personal role, responsibility and identity in the organization. Ultimately, this creates implications for one's reflective capacity as, what previous experience has taught, no longer suffices to get things done. This may be the reason why some routines remain the same for longer periods of time and some others change often as improvisation and creativity within accepted norms and procedures takes a more center stage.

5.3 THE BREAKDOWN OF THE TACIT

In the previous section (5.2) I concentrated more on the narratives of participants around routines, their understanding of these, and the practices or performances that they have been involved in when enacting a particular routine. My intention was to bring forward the ways that people talk about the routines they have participated and whether or how these have changed or altered and resulted in new performances and new understandings. In order to achieve this, the discussions were centred on critical incidents which create a wider context in which organizational experiences take place. Within such a context, participants cantered their narratives on moments of breakdown in practice; moments in which previous understandings no longer sufficed and new meanings needed to be created in order to move experiences and practices forward. Breakdowns, in this research, represent the overall framework for the investigation of routines and the role of tacit knowing in them. Breakdowns upset the ordinary, everyday practices and actions and therefore the routine ways of doing things in organizations. During a breakdown, whether major or minor, the upsetting of routines also upsets the tacit integrations by

which organizational participants tacitly draw upon when performing a particular task. Breakdowns then are vital in instigating (critical) reflection as the otherwise undisturbed practical engagement in organizational contexts becomes an issue for reflection and potential change.

As it has already been discussed in Chapter *Three*, knowing something comprises of the ability of an individual to integrate subsidiary particulars and focal targets. The individual is only subsidiarily aware of these integrations, i.e. knowing the integrations only in practice without being able to say what it is that he/she knows. From reading maps to riding bicycles, these integrations remain silent and point towards what an individual wants to accomplish, that is, point towards focal targets. Focal targets comprise of the individual's attention to achieving something (e.g. arriving at a destination by reading a map or by riding a bicycle) as an outcome of engaging in a particular action. Similarly, knowing how to perform a routine comprises of the ability of an individual to understand its ostensive part, in order to integrate performances that will lead to the effective execution of the routine. These performances, however, become upset and breakdown and their effective enactment depends on the individual's ability to connect actions to meanings. Informed by Polanyi's understanding of the structure of tacit knowing, there are three areas were these integrations fail to meet expectations of effective performance. The first one relates to integrations in relation to one's role, identity, and responsibilities in the organizational context. The second relates to integrations with others and various relationships that become upset in the course of organizational experience. The third relates to integrations with artifacts, tools or objects that are utilized by participants in

order to perform a routine effectively. In what follows I elaborate on three areas in which breakdowns reveal the relationship of tacit knowing to organizational routines.

5.3.1 Integrations with one's own identity, roles, and responsibilities

The first area of breakdown of tacit integrations within routines relates to how participants made sense of their own identity, roles, and responsibilities in their respective organizations. This means that the performances that give shape to routine patterns and the understandings related to these performances have been broken down when participants see that their own identities in the organization or their roles and responsibilities no longer conform to current practices. For example, in the re-branding routine, some of the interviewees suggested that when the project was assigned to the marketing department, a number of employees felt difficulty in understanding what their roles in the project would be and what kinds of responsibilities would be assigned to them by senior management. This was also confirmed by the manager who revealed that a number of employees in the department lacked the experience and knowledge of completing such a task and they felt overwhelmed by the amount of work needed to be carried out in order to finish the project in a given timeframe. On the other hand, the manager who had experience of similar projects of rebranding in other organizational settings felt that although the work would require a lot of time and effort, it can be effectively completed in the provided time frame. He did however acknowledge that for him the lack of experienced staff to carry on the task effectively was an issue of concern.

In other routines, such as the customer service routine, one manager narrated how an incoming senior manager downplayed her role in a particular project and eventually 'took away' her responsibilities to complete what she felt was her own effort and time

investment in this particular task. As she (FR – Senior Executive Business Developer – Company '**R**') said:

> "One of my first projects in the company was to develop a program for our clients and let them feel that they are part of the community and that [the company] is taking care of them, not just have the land, lease it, and then forget about them. I have developed some programs that add value and create new ideas for our clients and I was doing it for almost 12 months. When the new management came in, all of a sudden I have been told to stop doing this and focus on other assignments. So this was a tragedy for me because personally, I didn't want to stop the project that I dedicate myself and my time into it. But I could not reject their request; this was their demand. So I kept aside and what I developed I had to give it to someone and let them do what they have to do".

When asked to elaborate on the importance of such a move for her, she acknowledged that although working in other projects is perhaps a good thing in terms of experience gained, losing the one that she felt had been very proactive and engaged with had been quite difficult to fathom and cope with. What this signifies is that the individual makes an attempt to reconnect what for her has been disjointed because of an experienced breakdown of her role in the organization and in that particular project. As her role breaks away due to managerial intervention, she tries to re-adjust her positioning in the firm by identifying other areas in which her experience can have an impact in the organization.

This is not uncommon in the interviews that participants narrated. Another manager (GR – Manager of Customer Service in company '**R**') discussed how he lost custody of a particular project – and then, eventually, of the department – after he had misplaced a check-book that the auditing team identified as missing at the end of the year. Because

of this incident, the manager was deemed irresponsible and for this reason he was replaced by another colleague in the department. This particular type of breakdown had negative consequences on this manager as he came to realize that even the most 'routine' checks that he was responsible of doing before, they have now become an issue for reflection and concern. He said that since this incident occurred he has been re-instated into his position (four months later) and he is now able to be particularly careful with mundane activities. He has also been taking initiatives in the company to raise other colleagues' awareness about carrying out their responsibilities in the most effective way possible. For this manager then and for others before, the breakdown that occurred related to his role and responsibilities in the organization has become a learning curve in which he has now been able to understand in retrospect.

Breakdowns that affect one's own identity, role, and responsibility in the organization therefore represent one aspect of upsetting organizational routines. As routines are characterized by stable and discernible patterns of action, these patterns can sometimes change because of a tension between actual performances and desirable or expected outcomes. This, too, is a characteristic of tacit knowing, namely, the inability of a person to effectively integrate subsidiary particulars and focal targets. In other words, within a routine setting, breakdowns in the performative part can affect its ostensive aspect because of the inability of the individual to cope with current actions in the enactment of routines. In order for a routine to be enacted, the individual who participates in its performance needs to re-adjust his/her actions (i.e. to re-integrate subsidiary particulars) in light of novel organizational experiences.

5.3.2 Integration with others and various relationships

The second area of breakdown of tacit integrations within routines relates to how participants understand their relationships with other people in the organization – whether managers or subordinates. As it was indicated in the previous section and it was revealed during the interviews, a number of managers indicated that their relationship with other colleagues have been broken down and what used to be a normal and unobstructed relationship amongst colleagues, it was now re-assessed, re-evaluated, and re-considered in light of new experiences. For example, IM (Assistant Financial Controller) narrated in her interview how 'connections' (in the form of 'Wasta') within and across the company and between managers and other people (whether colleagues in the same or different departments or colleagues at other organizations) have impacted on ethical practices that were previously had gone unnoticed. First-hand experiences of these relations play a crucial role in the understanding of one's own position and actions in the organization as they disrupt the ongoing flow of organizational life. It is quite one thing to know about these connections and how others have been affected by them and quite another to experience this on a personal level. As this manager pointed out in another part of her interview, "I knew that some people here [in the company] have 'favorites' and others are not treated nicely but I did not know how serious it is".

Another manager raised the issue of ethical conduct in the company in the form of ethical standards that should be implemented to avoid or eliminate such behaviors in the future. As he (KR – Manager in Finance and Accounts in company '**R**') put it:

> "I personally feel ethics is the main thing which should be implemented in the organization. Employees need to go through proper training not only on specific subject matters but at the

> wider professional conduct which should be carried out in the company. [We need] an ethical policy which is crucial in all organizations and especially in this one".

Relationships with other people are essential in getting things done in organizational contexts. Working in small teams of four to six individuals in a number of ongoing projects was the norm in both organizations and departments typically comprised of six to ten individuals including managers and vice presidents. Any breakdown in the tacit integrations that are ineffably used to performing certain tasks can lead to unexpected consequences that may have major impact in the execution of routines. For example, interview participants spoke of an apparent lack of trust, disrespecting of rules and regulations, cultural misunderstandings, misinterpretations of company policies and procedures, all of which have given rise to changing performances, teams, routines, and practices. In the *Hiring and Promotions* routine, for example, it was noted that a number of people got positions that they did not deserve; the company hired people without the necessary credentials to be employed; others denied promotion on the basis of personal rather than professional matters; and others yet experienced a freezing in their rewards, salaries and commissions when these were due at the end of the year. All these, coupled with a general sense of dissatisfaction, suspicion, and gossip, have been catalytic in the changing (or unchanging) of routines and the ways that participants understood their roles and responsibilities in the organization.

It follows, therefore, that for routines to be effectively performed, relationships with other people in the organization, the department, or the team, need to sustain a level of coherence and stability. In most instances, colleagues of the same rank had not been talking about their colleagues in other departments or units. Interestingly, the blame was

typically put on managers and senior managers as they felt are responsible for the unpleasant situations that they were finding themselves into. On the other hand, a number of interviewees were also managers (some of them in senior positions) and they too were pointing towards senior colleagues in the organization. Although this may be due to a felt jealousy, it could not be verified during the fieldwork. What is important to note, however, is that tacit integrations in relation to other people had to be continuously revised and re-aligned as what once had worked well for them, it now no longer suffices.

5.3.3 Integration with artifacts (tools and objects)

The third area of breakdown in the tacit dimension of knowing within the context of routines relates to the ways that individuals integrate and use artifacts, tools, objects and equipment. This is an important area in the study of routines and of tacit knowing as it relates to the ways that people make sense of the physical objects that are used in order to effectively carry out a task or a performance. Within the literature on routines, artifacts are distinguished from routines and particularly their ostensive aspects. For example, Feldman and Pendland (2003; 2008) noted that artifacts such as standard operating procedures, written rules and policies, company regulations, technologies, and so on, should only be understood in terms of meaning their use have or is intended to have for participants in organizational contexts. Feldman and Orlikowski (2011: 1246) also point out that various technologies can be viewed as artifacts whose operations and outcomes are not fixed but always emergent through interaction with humans. As these interactions are carried out in organizational contexts, their meaning can sometimes break and different interpretations are required to complete the action in question.

In the case of the hiring and promotions routine, for example, as indicated in the previous section, both companies had publicized (internally) a set of policies related to hiring and promotion. However, a number of participants suggested that the standard operating procedures and company rules and policies have not been followed by senior management or they were interpreted at will to suit different situations. Artifacts – such as, in this case, the internal company documentation – act as pointers of routine performances, not as the set principles of the routine itself. Interpretations of various actors who are not so much involved in the hiring or promotion routine (but may have been involved in the past) bring forward the variety in routine performance and understanding at any given time. Feldman and Orlikowski (2011: 1247) discuss a similar experience where a multinational consulting firm had adopted a groupware technology to facilitate knowledge sharing amongst its consultants and the authors narrated that the managers who were responsible for the implementation and facilitation of the technology were very happy with the end product whereas the consultants who were supposed to use this technology were not using it that much at all.

Breakdowns affecting tools, artifacts and objects have also been discussed by the interviewed participants. For example, JR (Manager in Finance and Accounts in company '**R**') narrated an incident of how his experience in auditing (he had spent 14 years as an auditor and accountant before joining '**R**') enabled him to identify a fraud practice after scrutinizing data that 'looked suspicious'. As he has put it:

> "A company was giving commission based on sales so we found that a huge amount of commissions have been paid whereas there is no reflection of this on the sales or on the revenue as such. For example, the profits going down and commissions go up; and even revenue is going down. This gave us alert signal and we went to test them".

The ‘signal’ that this manager refers to is a form of breakdown of tacit integrations when using tools to complete certain tasks. For this experienced manager who has perhaps seen similar instances before, the problem was fairly quickly spotted and further investigation revealed a fraudulent practice on commissions that reached 700,000 USD. He also wondered how such a big gap in the company accounts had not been spotted before by any accountant or senior accountant in the firm. He explained that since the company comprised of some 24 branches in different geographical locations, the current system in use was not robust enough and therefore the integrity of the data had been compromised by someone (or more people) in any of the branches.

In any case, breakdowns in the use and interpretations of artifacts provide a snapshot of the ways that tacit knowing aligns and re-aligns in the view of new organizational experiences in the context of routines. In the *Rebranding* routine, failure of a supplier’s equipment to produce brochures on time for a company presentation meant a change in the supplier; in the *HR Systems* routine, the decision to de-centralize the system led to a change in the current system; and in the *Customer Service* routine, the observed long queues in the customer service desks led to a new way of handling clients in the branch and on the telephone. Tacit knowing, in all these instances has been disrupted and novel ways of integrating subsidiary particulars to attend to focal targets are needed in order to perform organizational tasks effectively and efficiently.

5.4 CHAPTER SUMMARY

This Chapter provides an overview of the thesis major findings. My aim in this Chapter was to *understand how breakdowns (accidents or surprises) in practical engagement of the participants in their daily routines altered their understanding of the practices involved in enacting these routines*. Looking closely at four different routines, namely, *Rebranding*, *Hiring and Promotions*, *HR Systems implementation*, and *Customer Service*, and building on data deriving from company documentation and informal and formal interviews it was revealed that changes in the routines are a result of breakdowns in the structure of tacit knowing. This is because of an inability of an individual employee (or a group of employees) to effectively *integrate* their subsidiary particulars in order to attend to focal targets in three areas: (a) integrations related to identities, roles, and responsibilities; (b) integrations related to various relationships; and (c) integrations related to the use of artifacts (objects or tools). Breakdowns occur in relation to these three aspects of organizational experience, all of which upset the bringing into range of focal targets in major or minor way.

In the following Chapter (Chapter *Six*) a detailed and in-depth discussion of these findings is provided in an attempt to bring the notion of breakdown in line with the concept of tacit knowing and explore further its fundamental role in routine change.

CHAPTER *SIX*: DISCUSSION

6.1 INTRODUCTION

In the previous Chapter (Chapter *Five*) I presented evidence of the ways that routines and tacit knowing are intertwined within two specific Middle-Eastern organizational contexts. Looking at four organizational routines that participants discussed in their interviews (i.e. *hiring and promotions, rebranding*, *implementation of new HR systems*, and *customer services*), my intention was to understand how breakdowns in routines impacted or altered organizational performances and what role tacit knowing plays within this context. Research on routines such as the hiring routine (Feldman, 2000; Rerup and Feldman 2011), the pricing routine (Zbaracki and Bergen, 2010), or the garbage collection routine (Turner and Rindova, 2012) has shown that routines are enacted in order to accomplish *hiring*, *pricing*, and *garbage collecting* and even to accomplish these in a particular way. However, when these enactments are disrupted, routine participants do take notice. More importantly, in amidst of accomplishing these tasks there is much else that is accomplished, which is not necessarily noticed and it is often unintended.

Building on interview data (based on critical incidents) and informal discussions in two organizations and in line with recent research on organizational routines and the role of

reflective talk on how routines change (Dittrich et al 2016), participants discussed how their understandings were altered or changed in light of new organizational experiences when engaging in organizational routines. The value of 'talk' is important in the research on routines and tacit knowing as it was revealed throughout the analysis that when routines break down they affect the structure of tacit knowing and *vice versa*. This means that *when the performance of a routine breaks down, it impacts on the structure of tacit knowing; when the structure of tacit knowing breaks down, it affects the performance of routines*. It is through these breakdowns that change brings itself forward in enacting routines and in knowing in organizations.

The findings of this research indicate that *breakdowns* play a crucial and often catalytic role in changing routines as they bring forward a disturbance in the ways that organizational participants integrate and re-integrate their subsidiary particulars in order to attend to focal targets. These integrations constitute the structure of tacit knowing (as discussed in Chapter *Three*) and their disruption leads one to change the ways that enacts or performs a particular routine. However, many times, these integrations are not recovered immediately and this leads to critical reflection which, in turn, enables organizational participants to *re*-view, *re*-assess, and *re*-evaluate various experiences in which they find themselves involved.

The analysis revealed that moments of breakdown led participants to a failure of integrating subsidiary particulars in order to attend to focal targets related to three areas: (a) identities, roles, and responsibilities; (b) relationships with other people; and (c) artifacts, tools and objects. This particular emphasis on the routine participants' integrative powers and interpersonal relationships has recently been the focus of attention

in research dealing with the link between organizational routines and dynamic capabilities (Salvato and Vassolo, 2018). Failure of these integrations deriving from a breakdown in practical engagement of participants in organizational contexts affect the ways that routines are enacted in a more or less significant way. Depending on the extent and severity of the breakdown, participants are forced to critically reflect on these novel experiences before they are able to re-align their tacit understandings in order to perform the routine effectively.

As this Chapter unfolds, I shall attempt to discuss the ways that the findings of this research contribute to our understanding of routines and the role of tacit knowing in such a context.

6.2 *BREAKDOWNS*: THE STARTING POINT OF CHANGING ORGANIZATIONAL ROUTINES

One of the key questions in research on routines is the question of *how* routines change (Dittrich et al 2016; Feldman 2000; Feldman et al 2016; Pentland et al 2012) (or fail to do so) in organizational contexts. One question, however, that remains largely unexplored and this research attempts to answer is the question of *why* routines change and *what* is the process that enables routines to change (whether in a major or minor way) and at the same time maintain their stability in organizations? The answer to this question lies in the concept of 'breakdowns' which was explored in this thesis. Breakdowns have been discussed by a number of authors including Kaplan and Orlikowski (2013), Sandberg and Tsoukas (2011), and Zundel and Kokkalis (2010), amongst others. The word 'breakdowns' signifies a disturbance of practical activity in which actors are engaged in their everyday lives and call for moments of reflection depending on the severity of the experienced breakdown.

The overall framework of breakdowns and their relationship to organizational routines is also relevant to how we can understand tacit knowing in this context. A breakdown of routines almost inevitably influences the ways that individuals learn to alter or amend actions when routines are enacted. The analysis of interviews revealed that during a breakdown, the upsetting of routines also upsets the tacit integrations by which

organizational members draw upon when enacting a particular routine. The findings suggest that breakdowns affect three areas where tacit integrations fail to meet individuals' expectations of effective performance: (a) integrations with one's own identity, roles and responsibilities; (b) integrations of how one relates with others; and (c) integrations with the use of tools or artifacts. Recently, Salvato and Vassolo (2018) emphasized that an explanation of dynamic capabilities (and organizational routines) will be more complete if we take seriously the '*meso*-level' (as opposed to merely looking at the micro- or macro-levels) of interpersonal interactions and connections among a firm's employees, in which persons (and not necessarily a few senior managers or directors) take center stage. Such a focus allows for an explication on how individual level action aggregates into firm level.

How do then breakdowns affect or impact on organizational routines in this particular research context? When the performative aspect of routines is interrupted, individuals are not able to carry on effective actions in the context of routines because the subsidiary integration that people tacitly draw upon to attend to focal targets fail to withhold disruptive pressures related to the three aforementioned areas, namely, identity, relations, and artifacts. In order for actors to recover these integrations, critical self-reflection is required which draws upon, primarily, dialogical engagement with other organizational actors. Feldman (2000: 625) asserts that self-reflection and other reflective behavior of organizational actors is critical part of routines' enactment as "reflecting on what they are doing, and doing different things (or doing the same things differently)" is a result of this reflection.

According to Sandberg and Tsoukas (2011: 344-346), for example, two major forms of breakdown occur, namely *temporary* breakdown and *complete* breakdown. When a temporary breakdown occurs, actors are involved in thematic deliberation where even though they are still involved in a practical activity, they now pay deliberate attention to what they are doing in order to continue. When a complete breakdown occurs, however, practical engagement becomes completely interrupted and this may force actors to become completely disconnected from practical activity thus prompting critical reflection.

The findings of this research reveal that breakdowns take different forms and result in different responses by organizational participants. For example, the *Rebranding* routine in company '**R**' was initiated mainly due to managerial intervention based on the understanding that the company's position in the market, its competitiveness, and its identity were not clearly explained to key stakeholders. These reasons for a breakdown to occur came from exogenous forces. Early explanations for change in routines were based on the existence of 'exogenous shocks' (Feldman and Orlikowski, 2011: 1244) such as management demand or technological changes. Feldman (2000) and Pentland et al (2011) suggested, however, that exogenous forces do not necessarily cause changes in routines as those who enact them often exhibit considerable flexibility in the actions they take to maintain patterns of action. The findings of this research show that this may not be the case as although participants in the *Rebranding* routine found it difficult to cope with the novel rebranding project, they did eventually put together the necessary actions to complete the exercise in an effective way. Similarly, the *HR system implementation* routine was introduced by a need to integrate 'best practices' in the organization, and was initiated by exogenous forces and managerial intervention.

The findings also revealed that most of the breakdowns occurred in organizational routines were related to their performative aspect rather than the ostensive. Nevertheless, the findings indicate that for some of these routines, such as the *Rebranding* routine and the *Customer Service* routine, the ostensive aspect have also been re-negotiated and re-evaluated in the light of novel organizational experiences. Industry-wide routines, such as the *Rebranding* routine that had not been performed in the researched organizations before, may seem to be difficult to be conceptualized in specific terms as the execution of the routine unfolds. The exact process, direction, and performance of the routine itself may be more difficult to channel than more established and institutionalized routines [such as hiring (Rerup and Feldman 2011) or invoice processing (Pentland et al. 2011)]. Since the ostensive aspect of routines manifests itself in formal scripts and codified procedures which "participants use…to guide, account for and refer to specific circumstances" (Pentland and Feldman 2005: 796), the findings suggest that the ostensive aspect of the *Rebranding* routine is 'ostensive-in-the-making' as formal rules and procedures are not yet in place for the routine to be enacted. This is not the case with the hiring routine, for example, as it is one that is performed in organizations worldwide and its ostensive part is less abstract than a branding (or, indeed, re-branding) routine which is performed under specific situations or circumstances.

6.2.1 Emotions

The severity of breakdowns experienced by organizational actors when participating in routines may also play an important role in the magnitude and pace of change in routines. Particularly in relation to their performative aspects, routines are much more susceptible to breakdowns, accidents or even crises and organizational actors need to respond to

certain situations in relation to experiencing novel stimuli. The findings indicate that a number of breakdowns are closely connected to emotional responses that then pose a challenge in enacting routines in effective ways. For example, in the *Hiring and Promotions* routine, organizational participants felt frustration and, at times, anger that the company's annual evaluations were not so much transparent and objective as they should have been for particular employees. This created tensions between employers and managers and questions were asked in relation to the effectiveness or usefulness of these evaluations. Moreover, concerns were raised in relation to the hiring policies and procedures that participants felt were only 'letters on a paper' rather than properly implemented set of rules and policies that the organization was actually using.

Surprisingly, research on the concept of emotions at the individual level in the performance of organizational routines is rather scarce (Feldman, 2016). Despite some calls to include emotions or 'impulse' in research on routines (Cohen, 2007; Salvato and Rerup, 2011; Winter, 2013), the focus of research to-date has remained too much concentrated on cognition (or deliberation) in performing routines (Howard-Grenville and Rerup 2016). Cohen (2007), for instance, called for more attention to the emotional (and 'habitual') aspects of enacting routines as they shape and subsequently influence the ways that these are reproduced over time. Farjoun et al (2015: 5) suggest that the interruption of routines by breakdowns or crises triggers an emotion of doubt which is closely followed by a process of 'abduction', that is, "new hypotheses are generated to combine the non-routine with existing knowledge, which can lead to new beliefs and habits as well as imaginative leaps, often accompanied by feelings of satisfaction and pleasure" (Farjoun et al 2015: 5).

Emotions then are released when habitual (or routinized) action gets interrupted in some way or conflicts with one another and, therefore, no longer provides guidance in an individual's interaction with his/her environment (Farjoun et al 2015). Emotions can be thought of as the motivational bases for creativity and innovation (Adler and Obstfeld, 2007) as they direct and stimulate action because they are the source of originality in thought and action (James, 1956; in Farjoun et al 2015: 5). Interruptions or surprises do *affect* those experiencing them and how they react to them depends on how permeable they are to surprises (how much they register it and let it influence them). Different kinds of surprise enact different kinds of permeability (Yanow and Tsoukas 2009: 1345). Cohen (2007) argues that emotions engaged by a task and established habits no longer suffice to accomplish it gives rise to challenges and breakdowns. The cognitive powers that we engage to diagnose the reasons for the breakdown and find new capabilities and new combinations of doing things is an endless cycle of emotionally engaging perceptions and activities. These are then interrupted by more breakdowns and the continuous effort to repair them generates an array of reasonably effective and mutually coherent habits or routines (Cohen, 2007: 777).

6.2.2 Dialogue

'Dialogue' or 'conversational interaction' has been acknowledged in the literature as a key component of knowledge creation in organizational settings (Nonaka and von Krogh, 2009; Nonaka et al, 2006; Nonaka and Toyama, 2007) and, more recently, as *the* most important aspect in a theory of knowledge creation (Baralou and Tsoukas 2015; Majchrzak et al 2012; Tsoukas 2009). As we saw earlier in Chapter *Three*, Tsoukas (2009) has outlined a dialogical theory of knowledge creation in which he defined the

latter as the making of new distinctions deriving from participants dialogical interactive engagements in the context of performing a particular organizational task. He argued that dialogue enables participants to take a distance from their customary assumptions and understandings – 'self-distanciation' (Tsoukas 2009: 943) – and reconceptualize a situation in question. In this way, new distinctions are brought forward insofar as participants take a distance from their previous held assumptions and views. What enables such change to occur, Tsoukas argues, is 'reflexivity'. It follows then that dialogue and reflexivity go hand in hand: one cannot occur in any meaningful sense if the other is not exercised appropriately. Put it differently, reflexivity enables dialogue and dialogue enables reflexivity.

Therefore, breakdowns in performative aspects of routines disrupt subsidiary particulars which have the potential to be recovered through reflection which enables (and it is enabled by) dialogical exchanges amongst participants in organizational contexts. The result of this process is the re-alignment of assumptions and understandings which produce novel distinctions and therefore participants engaging in routines can enact actions more effectively. Maintaining consistency and stability in the enactment of routines, nevertheless, requires the ability of individuals to *mindfully* engage with tasks and appropriately respond to unanticipated outcomes.

6.3. INTEGRATION WITH IDENTITIES, ROLES, RELATIONSHIPS, AND ARTIFACTS

One of the most important findings of this research relates to the areas where participants' tacit integrations broke down because their identities, roles, relationships and the use of artifacts that were once used unreflectively to get things done, have now become disrupted and needed to be re-viewed and re-aligned in order to continue their participation in routine performances. The integrations of subsidiary particulars in our background understanding are – as we have seen in Chapter *Three* – the key function of all knowing. Briefly put here, concepts are created through the *from-to* tacit integration of indeterminate clues (the *from*) into a joint comprehension (the *to*). Such comprehensions can themselves become clues to further tacit integrations in a constant attempt to arrive at focal targets. Focal targets, in turn, are the outcomes of an individual's attention to achieving something (arriving at a destination or accomplishing a particular task). Such acts of integration (and the acts of indwelling and interiorization they imply) are evident in all acts of knowing. Knowing itself is an action, it is the doing of things, and as such it is shaped by a participant who is embedded in, constituted in relation to, and is in ongoing communication with a particular context. Once tacit integrations have formed effectively they signify progress in something that has been *learned* (e.g. riding bicycles, driving cars, speaking a foreign language, conducting interviews, and so on) and such progress cannot be reversed; it can only be modified in light of new experiences.

When we carry out a task, we increase our familiarity with the context in which such action takes place. Particularly within organizations where tasks are performed to achieve particular outcomes, the context comprises of intertwined connections of other people's roles, responsibilities, identities, relationships, and their use of tools, and artifacts. Such

an understanding of the context in which human activity takes place is consistent with the principles of practice theoretical approaches in organization studies (Feldman and Orlikowski 2011; Feldman and Pentland 2003; Whitford and Zirpoli 2014). These approaches, although they display wide variations, they converge on three core principles shared by practice theory (Feldman and Orlikowski 2011: 1241-1243): (a) everyday actions are consequential in producing the contours of social life; (b) emphasis on relationality of mutual constitution whereby all actions (and thus all practices) are related with one another in the production of meaningful systems; and (c) the rejection of long-held dualisms such as mind vs. body, cognition vs. action, objective vs. subjective, and so on.

Being sensitive to these conditions, the findings of this research revealed that participants engaging in routines in the two researched settings produce consequential actions and then discussed how these actions have been evaluated in the course of an enacted routine. The consequentiality of actions in routines implies that routines must be enacted as without action they remain 'empty formalizations' (Feldman 2016) or espoused routines (Rerup and Feldman 2011). However, the enactment of routines and their consequential nature on the organization depends on *who* performs a routine and *how* the routine is enacted (Parmigiani and Howard-Grenville 2011). Crucially, the findings indicate that participants engaging in different routines, such as the *Rebranding* routine or the *Hiring and Promotions* routine, found it difficult to produce meaningful sequences of actions not so much because of their inability to perform particular actions but due to an observed (or, at least, perceived) lack of clear frameworks under which routines should belong to. For instance, absence of standard operating procedures, policies and

regulations, lack of communication, and misinterpretations of existing policies appeared to impact on participants' understandings in relation to their role and responsibilities within the routines and the broader organizational structure. Such a breakdown on one's identity and role in the organization breaks the chain of routine performance and the consequences are not only confined to the individual concerned but to the broader enactment of the same routine in the future or of other routines that such a routine depends upon.

6.3.1 Identity

Recently, Salvato and Vassolo (2018) point out that the *quality* of interpersonal relationships amongst participants of routine performance can determine the extent to which a change proposal may or may not develop and advance within an organization. Drawing on the dialogical perspective proposed by Tsoukas (2009), they identify two distinct types of relationships with other people: "I-You" (or 'relational engagement') and "I-It" (or 'calculative engagement'). The authors argue that productive interpersonal relationships are more likely to emerge from relational engagement, which involves cooperation between organizational participants, whereas calculative engagement involves minimal cooperative behavior as it is more concerned with controlling others and not to engage them in 'productive interpersonal relationships' (Salvato and Vassolo, 2018: 11). The "I" in "I-You" can be read as an expression of 'Identity', and the "You" is the identities of others in relationships characterized by 'relational engagement', whereas the "It" in "I-It" could refer to the identities of others in relationships characterized by 'calculative engagement'.

The literature on identity uses these two terms (identity and self) interchangeably. Identities are mental models, cognitive schemas, self-schemata, narratives, world-views that influence how people think about themselves and how they relate to others. Identity research clarifies that individuals are not separate from their social contexts and that 'social contexts do not exist apart from people' (DiMaggio and Markus, 2010: 348). Selves and identities reflect the 'individual's engagement with the world' (DiMaggio and Markus, 2010: 349); they matter because how individuals view themselves and their beliefs on how others view them influence how they interact with those around them (see DiMaggio, 1997). Interpersonal relationships affect a person's sense of self (identity); beliefs about self and beliefs about how they are perceived by others (Markus and Kitayama, 2010). Because an individual's networks of relationships vary, individuals acquire a repertoire of schemas and will have multiple identities, and these identities may be in conflict.

Importantly, individuals are not entirely free to decide their own identities. Instead, a person's identity can be decided for them by others (from the relationships they participate within social contexts). It is others who decide to accept or reject the identity we have created. For example, an academic's 'researcher identity' may conflict with the image or identity that his/her peers have of that academic. It is not easy to change others' perceptions of a person's identity. Thus, 'relational engagement' is more likely when the identities of participants are verified by others and as a consequence, participants are more likely to cooperate and engage in joint problem solving activities. Contrary behaviour would be expected under 'calculative engagement'. Hence, the degree to which breakdowns are detected and managed is influenced by the types of interpersonal relationships that pervade the group and the identities generated through these

relationships, as these will determine whether individuals engage in productive dialogue, or just ignore one another (Tsoukas 2009: 945).

6.3.2 Interactions among routines

The findings suggest that actions taken towards the enactment of one routine have consequences on other routines and their enactment is influenced by other structures (such as culture). For example, the findings revealed that the enactment of the *HR Systems implementation* routine impacted the *Customer Services* routine which may also influence back the initial routine. How phone calls are managed in the customer services may impact the evaluation of employees and the relationships with management which may in turn influence *Hiring and Promotion* routines and so on. Although the interconnecting nature of routines is acknowledged in the literature (Howard-Grenville et al 2016; Parmigiani and Howard-Grenville 2011), the evidence in this research suggests that the impact of one routine over another may be more significant than one may expect (Feldman et al 2016) and for this reason calls for more research in this direction have recently been put forward (Howard-Grenville et al 2016). This is because actions enacted in routines are intertwined with other actions, artifacts, or people in other routines and thus the boundaries of one routine in relation to another begin to dissolve (Butcher and Langley, 2016). This is what has been termed as the 'ecology' of routines (Birnholtz et al 2007: 318; Turner and Rindova 2012) whereby the interaction of routines with one another and their interaction with organizational and other contexts becomes particularly important.

The findings of this research shed light on this latter point of ecological interaction of routines in relation to wider contexts such as culture. The *Hiring and Promotions* routine,

for instance, is one that most of the participants' dissatisfaction and frustration was evidenced as they believed that policies, rules and regulations were only applicable to selective few organizational members. The untold 'Wasta' principle was often exercised not only in the hiring practices of the companies but also – and, perhaps more worryingly – in the promotion of particular individuals. The taking up of new ideas and proposals by younger managers was often perceived with scepticism and many times were ignored by more senior managers. This was often attributed to a misunderstanding of the cultural parameters within the Emirates by expatriate managers whose interests and intentions did not appear to match those of local Emirati workforce. Such 'clash of cultures' as it was referred to by some participants, coupled with the government's initiatives for 'Emiratization', caused strong tension between expatriates and local managers and changes in the enactment of the routine appeared to be very slow. Howard-Grenville (2005: 632) suggested that since 'embedded routines' are mutually constituted with other structures (e.g. culture), their overlap with other structures, artifacts, and expectations makes change of these routines very difficult. Feldman (2003) showed how a change in a routine that was requested by supervisors failed to change when its performance contradicted employees' understandings about the organization. On the other hand, an embedded routine may be weak if the overlaps with other structures, if any, are arbitrary and therefore its change may be inconsequential for other routines and structures.

In this research, the distinction between ostensive and performative routines first proposed by Pentland and Feldman (2003) was taken up to explain the differences observed in the enactment of organizational routines. The literature on routines identifies mainly two approaches that attempt to explain their dynamic nature (Bucher and Langley,

2016: 3-4). The first is the 'Within' approach which puts emphasis on the building up of the routines from the performative aspect to the ostensive (e.g. Bresman 2013; D'Adderio 2008, 2014; Feldman 2003; Rerup and Feldman 2011; Salvato 2009). The second, is the 'Without' approach which emphasizes how the ostensive aspect pushes down to the performative (Pentland and Feldman 2008; Jarzabkowski et al 2012; Obstfeld 2012). For example, regarding the 'Within' approach, Salvato's (2009) study of strategic renewal at Alessi through incremental change to its product development processes showed how variations to standard operating procedures occurred through localized adjustments to external requirements and then selected and recombined by managers, ensuring the reproduction of more successful ostensive routines. Similarly, Rerup and Feldman (2011) identified that surprises – or breakdowns – encountered in performing particular routines led to trials and adjustments that were incorporated into the routine's ostensive aspects, but was then clashed with organizational schema leading to further trials and adjustments at that level too impacting other routines.

The findings of this research are in line with these studies whereby routines such as *HR Systems*, and *Customer Services* were characterized by increased managerial intervention and trial and error processes when the respective routine was enacted in particular ways and then were communicated and reviewed by management to adjust or change particular aspects of the performance. Through series of feedback and dialogue between those different participants who were carrying the responsibility to create, maintain and use the system, the routine was effectively implemented. In the *Hiring and Promotions* routine, however, things were not that straight forward in relation to its performance. The perceived purpose and implementation of policies and procedures by

various organizational participants led to a series of serious breakdowns and tensions between managers and employees. The critical incident accounts indicated that even though the ostensive part of the routine was explicated in a series of internal documents, participants felt that these policies and rules were not actually used when these routines were carried out. This means that in this case a gap exists between the ostensive and the performative aspects of the routines and changing the ostensive became very difficult in practice.

On the other hand, the way that the *Rebranding* routine had been enacted and understood in the organization demonstrates the 'Without' approach to routines reorientation (Bucher and Langley 2016). Besides endogenous change in routines, variations can be generated from outside routines themselves and the literature identifies abrupt environmental shifts and opportunities as being responsible for intentionally reconfiguring routines. Feldman (2003: 749) pointed out that "when managers or others intend to change a routine…they produce a new way to conceptualize it". This means that actors who intend change can develop a new concept of a routine and communicate their intentions to others eventually leading to altered performances and finally a changed routine. When concepts of routines and their ongoing performances are interdependent and mutually reinforcing, deliberately re-orientating routines can be a significant challenge (Feldman 2003). Thus, the *Rebranding* routine and, to some extent, the *Customer Service* routine, maybe viewed through what Obstfeld (2012: 1571) referred to as 'creative project' that constitute a form of non-routine organizing composed of "emergent trajectories of interdependent action" through which actors – or organizational units – become connected in new ways and engage in new actions geared toward an envisioned change

in routines. Obstfeld (2012: 1572) offers an example of a 'creative project' that was suggested by Winter's (2006: 130) imaginary popsicle factory vignette:

> "[T]he president says to the director of research that "I've just been reading about the great strides that have been made recently in cryogenic technology. Why don't you look into that and see if there is anything that will give us a cheaper way of making popsicles". This directive…set[s] in motion a chain of organizational events which may ultimately lead to a new set of production processes. It differs [from more incremental adjustments to routines] in that the timing, magnitude, and character of its impact on the way the firm operates is very difficult to predict" (Winter 2006: 130: cited in Obstfeld 2012: 1572).

The findings revealed that the *Rebranding* routine was initiated by a decision at the board of directors' level to change the name, logo, and communication material of company '**R**' and then communicate this decision to senior management for its implementation. Senior management in turn assigned the project to the marketing manager – and his department – and through a series of actions, combinations, tensions, breakdowns, and discussions it was successfully implemented after four to five months. Thus, in the two research settings both routines and creative projects were evident which provides a reconciliation between routine and less routine action in organizational settings as being responsible for stability and change in organizations.

6.3.3 Routines and artifacts

Another area that the findings of this research shed light on is the role of artifacts in the enactment of routines. Artifacts play a crucial, mediating role in the relation between ostensive and performative aspects of routines (D'Adderio 2011, 2014; Howard-Grenville 2005; Turner and Rindova 2012) and they include physical tools such as equipment,

databases, documents, and work procedures such as standard operating procedures that actors use (or draw upon) to get things done. Artifacts in the literature on routines have been treated differently as research evolved. D'Adderio (2011: 224) shows how artifacts have gradually become a central theme in routines research as they are now understood to play a central role in the interaction between performative and ostensive aspects of routines. The findings of this research show that the way people understand ostensive and performative routines differs depending on their role and responsibilities in the organization. For example, in the *Hiring and Promotions* routine, company policies, written documentation and rules were interpreted in different ways by those who were executing the routine (managers) and those who were observing it (employees). Feldman and Pentland (2003: 101) suggest that a "dean's perspective on the academic hiring routine is likely to be very different from a graduate student's perspective". Similarly, in this research, the IT and HR manager's perspective on the implementation of a new *HR system* differs markedly from that of an employee. Interests and intentions seem to diverge as the interpretation of what the routine should entail (ostensive) and how it should be executed (performative) was perceived differently. This implies that the meaning of what something is (or ought to be) is not given but negotiated in the enactment of routines in organized contexts. Through a series of breakdowns in the ways that these artifacts 'represent' what something should be, meanings are reviewed and experiences are re-evaluated when participants draw upon explicit rules that are expected to guide practice. Research, however, has shown that formal rules and company documentation (artifacts) should not be confused with ostensive or performative aspects of routines (Feldman 2000, 2003; 2016; Howard-Grenville 2005). Rather, as Feldman and Orlikowski

(2011: 1246) argue, artifacts' "operation and outcomes are neither fixed nor given *a priori*, but [are] always temporally emergent through interactions with humans in practice".

6.4. (CRITICAL) REFLECTION AND MINDFULNESS IN ACTION

The focus on breakdowns as the starting point of routines change brings forward another area of attention in the structure of enacting and understanding performative and ostensive aspects of routines in organizational contexts. The notion that routines change as a consequence of members' reflective responses to previous outcomes (Feldman and Pentland 2003) emphasizes the constitutive and transformative role of human action in locally embedded, institutional and social organizational contexts. If routines are viewed as interlinked habits characterized by sequential patterns of action based on the habits of routine participants (Turner and Cacciatori 2016), it follows that routines emerge through

a process of gradual learning by participants in routines. Equating routines to habits, has given credence to the idea that routine action is more automatic in nature, characterized by stability or even mindlessness in performing routine actions. This is because, habits, have been conceptualized as static and difficult to change. More recently, however, scholars have called attention to the micro-foundations of routines (Cohen et al 2014; Felin et al 2012; Winter 2013) which view habits as more flexible, dynamic, and generative and can exhibit mindful qualities.

The difference between mindful and less-mindful behavior (Levinthal and Rerup 2006; Rerup 2005, 2009) in the enactment of routines is strongly linked to managerial practice (Salvato and Rerup 2011). Parallel to this distinction lays the relationship between reflection and action (or practice) that has been explored most influentially by Donald Schön's (1983, 1987) 'reflective practitioner' who exhibits reflection-*in*-action and reflection-*on*-action. The latter is the kind of reflection one might engage in after action has transpired (Yanow and Tsoukas 2009) – a term that has been closely associated with the concept of (critical) reflection. In the former, however, the practitioner "does not separate thinking from doing, rationalizing his way to a decision he must later convert to an action", as "the practitioner approaches the practice problem as a unique case. It is thus a kind of experimenting" (Schön 1983: 129; 132). Schön argues that when someone reflects-in-action, he becomes a researcher in the practice context, "the description of intuitive knowing feeds reflection, enabling the inquirer to criticize, test, and restructure his understanding" (Schön 1983: 277). Thus, the reflective practitioner is characterized by the *ability* and *willingness* to question routinized ways of thinking and acting in the midst of acting where it is possible to alter one's current course of action by framing the

problem in a new way or by improvising on new ways of solving the problem at hand (Jordan 2010: 392).

The concept of reflection-in-action is therefore closely linked to the concept of mindfulness in organizational routines. Levinthal and Rerup (2006: 506) defined mindfulness as attentiveness to context and the capacity to respond to unanticipated cues or signals. Mindfulness is a mode of practice that allows the questioning of expectations, knowledge, and adequacy of routines in complex and unpredictable settings. Mindfulness is the *quality* of attention that enables practitioners to minimize errors, remain vigilant, and respond effectively to unexpected events (Rerup 2005: 452). Such quality of attention, however, needs to be sustained so that the quality of mindfulness is heightened. Mindfulness creates enriched awareness to notice more issues, process these issues with care, and detect and respond to early signs of trouble. For example, an experienced doctor with heightened mindfulness uses discriminative content to pick up cues about a patient's condition that a less experienced doctor overlooks or fails to see. This, in some cases, might have severe consequences for the patient if early signs of cancer are not picked up or respond to appropriately to the situation at hand.

The findings of this research demonstrate that mindfulness has been exercised with positive effects when, for instance, the experience of a practitioner to pick up early signs of trouble (fraud) enabled him to identify and respond quickly and decisively to a particularly troublesome situation for the organization he was part of. In other instances, participants discussed how their experience in working in different organizations and performing similar routines to the ones they were enacting in their current roles find it easier to transform their experience and knowledge into the new context. However, more

often than not, mindfulness takes time to be built into an organization. To paraphrase Rerup's (2005: 452-453) assertion, "if all [practitioners] could switch instantly to mindfulness, and if mindfulness improved organizational performance, then all [practitioners] would be mindful…It is demanding and difficult to be mindful".

Engaging in routines mindfully is thus an important aspect in maintaining stability and instigating change in organizational routines. Breakdowns, surprises and accidents in organizational life can bring about changes in the enactment of performative routines and it is through reflection-in-action or mindfulness that understandings and experiences can be re-aligned for performances to move on. These moments of re-aligning actions to effectively perform a particular task is built upon dialogical exchanges amongst organizational actors who are enacting (or have enacted in the past) the same routine. Weick (1993) showed that lack of talk in the face of a breakdown can result in a fatal collapse of a routine. Dialogical interaction, as it has already been pointed out earlier, is a crucial aspect of knowledge creation which involves both reflection-on-action and reflection-in-action. Faced with a moment of perplexity or difficulty, engaging in dialogue can potentially dispose of doubts, uncertainties, fears, and hesitations so that routine participants can effectively arrive at desired outcomes. Drawing our attention to how we draw each other's attention to things plays a crucial role in the continuation of performing organizational routines. Tsoukas (2003: 15-16) argued that instructive forms of talk such as 'think of…', 'imagine…' , 'suppose…', and so on, can help practitioners to re-orientate themselves on how they relate to others and thus enabling them to act (and talk) differently.

6.5 THE ROLE OF TACIT KNOWING IN THE CONTEXT OF ORGANIZATIONAL ROUTINES

Change in the ways that routines are performed is one of the most prevalent themes amongst researchers on routines. Since the research of Feldman (2000) and Feldman and Pentland (2003), two reasons have been identified in the literature that relate to the ways in which routines change: first, participants engaging in routines might not perform the same routine identically every time; and, second, as routines are enacted by multiple participants, it is possible that not all agree on how to perform the routine because of differences in orientations, positions, and power within the organization. Such variability in routine performance is therefore responsible for both stability and change in organizational routines.

This thesis complements and extends current conceptualizations on the reasons behind routines change as it is argued that one of the reasons that participants might not perform the same routine identically every time they enact it may relate to the ways that breakdowns affect the subsidiary integrations of participants' roles and responsibilities, the use of artifacts and objects, and the relationships amongst colleagues and external organizational actors. Additionally, since the enactment of routines involve multiple actors, disagreements do arise that do not only come from endogenous forces of positions, power and orientation of participants but also exogenous forces in the form of managerial intervention and market demands that may instigate novel projects which could gradually become routinized in organizational contexts (as it was the case with the *Rebranding* routine). In this research, *the breakdown of routines is closely related to the breakdown of the structure of tacit knowing and* vice versa. Briefly described here, knowing comprises of the ability of an individual to skilfully integrate and re-integrate subsidiary particulars in order to attend to focal targets so that meaning is created. These integrations are silent and operate in the background as guiding forces in getting individuals effectively completing different tasks. Such connections are made possible through action and their realization is only made possible in retrospect as we do not know what to do before we actually do it – and then reflect on it. Moments of breakdown disrupt this process as our tacit integrations become insufficient in getting things done and need to be re-aligned in order to move the activity forward.

As the literature on routines highlights, a similar process is observed when individual actors engage in performing organizational routines. Performative aspects of routines are responsible for creating, modifying, and sustaining ostensive routines in a similar way that

integrating and re-integrating subsidiary particulars shape the *quality* of attending to focal targets. Any breakdown (whether major or minor) in the performance of the routine has an impact on the structure of tacit knowing. Recovering the tacit requires reflecting, reviewing and refocusing attention to the performed action geared towards a particular purpose; so does the recovering of the enactment of routines. Such a recovery, in organizational settings, is possible through dialogical interaction with participants who are engaged in the same routine or have been engaged in the past and can potentially direct participants' attention to novel insight on how to perform a particular task.

Think, for instance, of the following example. Writing this thesis is part of the routine of obtaining a PhD in the social sciences. It comprises of ostensive and performative aspects whereby the former includes the abstract, collective perception of what a PhD should look like, what it should contain, and how it should be approached; this is the ostensive aspect of the routine. The performative aspect, on the other hand, includes the series of actions that, broadly speaking, include reading, writing, thinking, discussing, and so on that taken together give shape to the ostensive aspect. Looking at the routine of writing a PhD thesis from the point of view of the structure of tacit knowing, it may be said that it comprises a focal target, namely, the final outcome (the thesis itself), and subsidiary particulars that include all of the actions and performances that will contribute to the outcome. As the process of writing the thesis unfolds, the researcher faces many breakdowns that may come from internal or external sources and their impact can vary in terms of severity and timing that they take place.

In my case, for instance, writing was interrupted not only because of moments of breakdown that were triggered by my understanding of reading a particular research

paper or a book and the impact these had on my intellectual and thinking processes (internal factors), but also by moments whereby my health, family, and supervisory team influenced my performance at different stages of the process (external factors). It was only through heightened determination, increased mindfulness, and fixed attention to the focal target that I was able to complete the thesis within the given time frame (even though this had to be negotiated a few times). Yet, despite assurances by the supervisory team that this *is* a PhD in social sciences that eventually grants its author the title of a Doctor of Philosophy along with the unspoken acceptance of him/her as being a qualified researcher in the field of organization and management studies, its final outcome will be determined by fellow researchers who have not been involved in this thesis themselves but have been involved in their own routine of writing and successfully defending their thesis some time ago (external and internal examiners). For these examiners, the performative aspect of the routine (e.g. writing, reading, discussing, etc.) becomes secondary in terms of importance as what really matters to them is whether the ostensive aspect is compatible, comparable, and in alignment with other PhD theses in the field. Conforming to 'industry-wide standards' of what the ostensive part of the routine is (or should be) determines whether this thesis *is* a PhD or not.

On the other hand, the performative aspect of the routine is very much context-specific, or company-specific. How researchers write PhD theses, what breakdowns they encounter in the process, how they respond to these and move on (or not), depends very much on the individual, the context, the experience, and the ability of the researcher to remain mindfully aware of the ostensive aspect (i.e. becoming a Doctor of Philosophy). How people in a University understand the PhD writing routine is, too, based on their

assumptions, experiences, culture, and values within the particular setting (it is very different writing, completing, and defending a PhD thesis in the UK than it is in the UAE or in Pakistan). Therefore, seeing the performative aspect of the routine in isolation and away from its mutually constitutive ostensive aspect is like looking at knowing only in its subsidiary form without attention to its focal counterpart. As Feldman and Pentland (2003: 102-103) suggested, both aspects are crucial in understanding a routine, just as in music "the ostensive part is…the musical score, while the performative part is the actual performance of the music". Both need to be made aware to a participant who is involved in their execution for effectively carrying out a music-related routine.

Feldman and Pentland (2003: 104) also argue that the ostensive and the performative part of routines can be seen in terms of Ryle's (1949) distinction between 'knowing that' (ostensive) and 'knowing how' (performative). However, as it has been demonstrated in Chapter *Three*, Ryle sees knowledge as a spectrum where tacit (know-how) and explicit (know-that) knowledge are placed at opposite ends. For Polanyi, however, such a distinction cannot be sustained. These two forms of knowing are not separated but they must be viewed together as one shapes the other in a recursive manner. For Polanyi, "all knowing is either tacit or it is rooted in tacit knowledge" (Polanyi, 1966: 7). It follows then that performative and ostensive aspects of routines cannot be separated; they are just the two sides of the same coin. They comprise of a 'from-to' structure – like the structure of tacit knowing: the performative aspect bears on a focus *to* which we attend *from* it, that is, the ostensive. A routine's functional character is manifested on the enactment of performative aspects by relying on our awareness of them for attending to something else. We perform rebranding activities in order to accomplish rebranding; we

perform hiring and promotion activities in order to accomplish hiring and promotion (and accomplish these in particular ways).

Changing one element of a routine or one whole aspect (e.g. performative) does not necessarily lead to changing the other. Overestimating the importance of the ostensive aspect leads to underestimating the importance of the adjustments and improvisations that people take to make the routine work (Feldman and Pentland 2003). Thus, ostensive and performative aspects of routines are *recursively* related whereby "performances create and recreate the ostensive aspect and the ostensive aspect constraining and enabling performances" (Feldman and Pentland 2003: 105). Such an understanding of the recursive relationship between ostensive and performative routines and the role of tacit knowing in the enactment and understanding of these aspects in organizational settings is a key component of practice-theoretical approaches in organization and management studies.

Finally, it is important to underline how the methodological approach adopted in this thesis with its focus on breakdowns and critical incidents brought forward important insights in relation to ostensive and performative aspects of routines and the role of tacit knowing. The preceding discussion centers on how and why breakdowns play a crucial role in the enactment of routines and the structure of knowing in such a context. Breakdowns occurred not only because of changes in the environment but also because ongoing efforts to carry out effective decisions and actions were hindered and inconsistences were observed (Kaplan and Orlikowski 2013). We cannot understand routines if we do not recognize social customs and rules and the role that breakdowns play in individual learning and creativity (Farjoun et al 2015). However, breakdowns are not only

responsible for the interruption of progress in the engagement of organizational life. They can also be seen as generative in provoking a search for new interpretations and possible actions (Kaplan and Orlikowski 2013). Bearing this in mind, the focus on breakdowns as a theoretical and methodological tool should be acknowledged. The former is important in that it treats breakdowns as the norm in organizations rather than the exception (Whitford and Zirpoli 2014). The latter is also important because it offers methodological opportunities to study routines as during moments of breakdowns and interruptions participants are likely to engage mindfully and intelligently (Dionysiou and Tsoukas 2013; Sandberg and Tsoukas 2011) thus "enabling researchers to capture the surfacing of meanings and understandings" (Dionysiou and Tsoukas 2013: 200) of participants in routines. This has been possible with the use of the critical incident technique as a tool that enables 'talk' between the participants and the researcher where instances of breakdown were brought to the foreground for the analysis to take place. Therefore, rather than merely observing and informally discussing with participants in the context of routine performance, the value of reflective 'talk' has been particularly important.

CHAPTER *SEVEN*: CONCLUDING REMARKS AND CONTRIBUTIONS TO KNOWLEDGE

7.1 CONCLUSIONS

When I embarked on this research I was primarily interested in tacit knowing, the process by which organizational actors learn to conduct their daily activities in organizational contexts. As time passed, I also became interested in organizational routines in which tacit knowing is said to constitute its foundational premise (Gavetti and Levinthal, 2000; Parmigiani and Howard-Grenville 2011; Pentland et al 2012). As Parmigiani and Howard-Grenville (2011: 441) suggested, since routines, by their very nature, comprise of patterns of interdependent activities performed by multiple actors, they necessarily embody tacit knowledge. Interestingly, however, what role tacit knowing plays in the context of organizational routines has only been limitedly explored in the literature of organizational routines. One of the central themes in this literature is the so-called paradox between stability and change, or what Cohen (2007: 782) referred to as the "paradox of the (n)ever changing world". Early scholarship viewed routines as stable, self-contained, and thing-

like entities responsible for maintaining stability in organizational life. More recently, however, routines have been conceptualized as processes encompassing human action in the effort to accomplish particular tasks and are, therefore, sources of change. This difference in perspective is attributed to the level of analysis one takes to explain the paradox. Focusing on action and interaction in routines and the ways that they are enacted enforces the view that change is part of stability and stability is part of change (Feldman 2016).

The question of how routines change (or fail to change) has attracted considerable attention by organizational scholars and various explanations have been provided. However, what has not been adequately addressed is the question of *why* routines change and *what* is the process that enables routines to change and, at the same time, maintain their stability in organizational contexts? In this research, I attempted to answer these two questions in the following way. As indicated earlier, when I started this inquiry I was concerned with tacit knowing and the ways that it manifests itself in people's actions and practices. The tacit dimension of knowledge has been widely explored in organization and management studies literatures. Building implicitly or explicitly on the work of M. Polanyi (1962; 1966) these literatures underlie the importance of tacit knowledge in organizational settings and its significant role in the execution of effective business strategies.

The concept of tacit knowledge gave credence to one of the most influential frameworks in the area of organization and management studies, namely, the resource-based theory of the firm. At the heart of the theory lays the concept of tacit knowledge which is viewed as the most significant resource possessed by an organization in its attempt to gain and

sustain competitive advantage (Barney et al 2011). In a similar way, the dynamic capabilities perspective also argues that the capability of the manager to make strategic decisions in terms of appropriate resource allocation is informed by (tacit) knowledge (Teece et al. 1997). At the heart of the capabilities perspective lays the concept of organizational routines but a clear distinction between the two (capabilities and routines) is not entirely apparent. Organizational routines are often regarded to be the 'building block of capabilities' (Dosi et al, 2008: 1167). Capabilities, in turn, from a more macro/organizational level, are often viewed as higher-level organizational routines (Teece 2007; Zollo and Winter 2002) or decision-making rules (Eisenherdt and Martin 2000). From a micro/individual level, capabilities are interpreted as decision-making activities based on the skills of one or more entrepreneurial top managers (Helfat and Peteraf 2015). Therefore, if capabilities are conceptualized as routines, individual knowledge (and in particularly its tacit aspects) play a central role in the process of learning in organizational contexts.

This is because every organizational routine has an inherent capability to generate change merely by its ongoing performance (Feldman and Pentland 2003). Routines are sources of endogenous change because of tacit knowing which evolves and continuously changes in its application (Becker 2004). The literature on routines highlights the fact that routine behavior is mainly rooted in the practical consciousness of individuals who participate in these and reflects routinized action. Actors in routines know tacitly about how to go on in the context of social life "without being able to give them discursive expression" (Giddens, 1984: xxiii). From this perspective, which builds on the premises of practice-theoretical approaches in social sciences, all social life is considered as being

mainly rooted in the routinized and largely unconscious processes which are connected to practical, tacit, or pre-reflective knowledge. This perspective helps us to see "organizations as systems of practices, existing in the world of tacit knowledge" (Gherardi, 2000: 215).

These insights provided the basis for a deeper exploration of the tacit. Building on the works of Polanyi (1962; 1966) and Collins (2010), it has been argued that tacit knowing comprises of the ability of an individual to effectively integrate (connect and re-connect) subsidiary particulars to focal targets. These integrations remain largely tacit if the activities that individuals engage in are performed without interruptions and disturbances. However, when practical activity becomes disrupted because of a *breakdown* (major or minor), participants begin to *reflect* on what they do and may perform the same action in a different way or perform different actions. It is in these moments, it is argued, that the process and structure of tacit knowing breaks down because the integration of subsidiary particulars that are tacitly used to attend to focal targets no longer suffices and need to be re-integrated.

Hence, if we accept that tacit knowing is at the heart of routine action, it implies that any breakdown of the tacit will inevitably affect the routine actions that participants engage in. This is a particularly important insight that this research adds to the literature on routines as it places tacit knowing at the core of routine action. This conceptualization of the tacit has further implications on the structure of routines. It is widely accepted in the literature on routines that they are comprising of two recursive and mutually constitutive dimensions: (a) the *ostensive* dimension which represents the abstract description of organizational routines that contain both explicit (written instructions, standard operating

procedures, rules and policies, and so on) and tacit, collective understandings of how an activity should be performed; and (b) the *performative* dimension which represents the *actual* performances of organizational routines carried out by human actors as they create, maintain and modify the ostensive part. The specific interaction of these two dimensions of routines determines the degree to which routines can change, the extent to which they can be flexible, and the extent to which they can be transferred to other contexts (Feldman and Pentland 2003; Pentland and Feldman 2005).

By definition, routines imply a stability of recurring action and therefore they have been linked to organizational stability for two main reasons: (a) when routine results are satisfactory and no alternative ways of problem solving can be identified, routines remain largely unchanged; and (b) since stability of routines allow for valuable feedback which may be used to assess changes, comparisons, and learning, sometimes such feedback may not be taken into consideration by performing agents. This, the literature suggests, can lead to the development of 'defensive routines' (Argyris 1990) which, in turn, can generate 'competency traps' (Levitt and March 1988) or 'structural inertia' (Hannan and Freeman 1984). From this perspective, as Feldman and Pentland (2003: 98) argued, "routines are seen as the antithesis of flexibility and change, locking organizations into inflexible, unchanging patterns of action" thereby emphasizing the effects of stability rather than change.

How and why then routines change? Importantly, routines are linked to the fundamental role that learning plays in changing them. Learning, in turn, is closely associated to the structure of knowing, and in particular its tacit aspect which gets modified, amended, or changed in light of new experiences. But such change or modification in human

understanding does not happen automatically; the triggering mechanism responsible for instigating such change, I have argued in this thesis, are moments of breakdown in practical engagement of individuals involved in organizational routines. The literature on routines has highlighted a number of reasons for the performing actors to adapt and change organizational routines. For example, when existing routines do not produce the intended outcomes, or, as a result of existing routines, new problems occur and then have to be solved. What is missing from these accounts, however, is that *the link between learning and changing or adapting organizational routines is a result of breakdowns in the structure of tacit knowing*. Recently, Dittrich et al (2016) have acknowledged the role of reflection as the source of changing routines. However, in this research I emphasize that before reflection occurs, a breakdown has occurred, which allows for reflection to take place.

Breakdowns operate in various ways and have different effects in the structure of tacit knowing. When they occur they disturb the 'from-to' structure of knowing in a more or less significant way. The subsidiary particulars which a person tacitly draws upon in order to attend to a particular task (or a focal target) become upset and thus need to be re-aligned before the actual performance can be carried out. In such instances improvisations and creativity may surface as the individual is attempting to effectively complete the routine he/she is engaged in. From riding bicycles and reading maps to performing customer services and hiring and promotion routines, the fundamental role breakdowns have in carrying on effectively the respective task has been explored and acknowledged. In instances of breakdown, action cannot move forward; it becomes the focus of attention itself where the individual performing it tries to understand what other courses of action

may be available for the performance to move forward. In organizational contexts, this takes the form of dialogue and talk with other individuals who are engaging in the same routine. Dialogue enables reflection and reflection is the source which enables routine action to change (Dittrich et al 2016).

The quality of such reflection and the ability and willingness of the individual to question routinized action is what enables mindfulness in the enactment of routines. Mindfulness is what allows organizational practitioners to remain vigilant in sight of unexpected events, minimize errors and respond effectively to cues or potential breakdowns. High levels of mindfulness allow for the sustainability and consistency of effective routine performance because it fixes the attention to focal targets. Although mindfulness is grounded in individual behavior, it also builds on organizational mechanisms and therefore become a collective phenomenon. Collective mindfulness largely depends on communication which builds upon dialogue between or among organizational practitioners in sight of unusual experiences. Therefore, breakdowns can generate mindful behavior in organizational contexts.

In order to research the role of tacit knowing in organizational routines this thesis is built on a methodology that draws upon ethnographic, dialogical, and inductive approaches to investigating social phenomena. From an interpretivist perspective, knowing is a social accomplishment which is manifested in sayings and doings of people in organized contexts. Similarly, from an interpretivist perspective, routines are conceptualized as practices in which patterns of action are their essential part and are enacted by people who are reflective of the actions that constitute them. Therefore, investigating the tacit in the context of doings and sayings of organizational actors requires methods that are

inductive and dialogic in nature such as participative inquiry (i.e. observations) and unstructured interviews (both formal and informal). Hence, building on interview data with a focus on critical incident technique and discussions in two public-owned UAE-based organizational settings, I attempted to identify how participants' understandings altered or changed in light of novel organizational experiences when engaging in organizational routines. This approach is consistent with recent work on organizational routines (Dittrich et al 2016) and the role of 'talk' or 'dialogue' in understanding the ways that routines change.

What is presented in this thesis, of course, is not supposed to be considered as definitive or exhaustive. Instead, it is supposed to stimulate the reader's interest in tacit knowing and its role in organizational routines and raise awareness on the importance of breakdowns as an integral and essential part of organizational life along with some suggestions regarding their relevance, application, and importance in our investigations of the tacit in the context of routines. Thus, nearing the end of this journey, it is hoped that four main contributions have been achieved in this thesis:

1. Although investigating tacit knowing in organizational contexts is not essentially new, the connection between tacit knowing and organizational routines is a novel contribution of this thesis. It has been argued that it is the breakdown in the structure of tacit knowing (the integration of subsidiary particulars and focal targets by a person) that affects the performance of routines in a minor or major way. Additionally, the explicit focus on breakdowns as the triggering source of changing organizational routines represents another contribution of this thesis.

2. Another important area that this research has contributed to is the methodological attention on ‘talk’ (Dittrich et al 2016). Embracing the view that routines are practices enacted by individuals in social contexts and manifested in sayings and doings of routine participants, it follows that tacit knowing is (or, should be) at the core of any inquiry into the ways that routines change or fail to do so in organizations. Therefore, quite apart from observing routines and actors’ behavior in organizations (the ‘doings’ of routines) as an important aspect of understanding routine performance attention can be paid on the ‘sayings’ of routine participants as in this way we can delve deeper into participants’ understandings and reflective accounts of how and why things take place in one way rather than another. Therefore, in this thesis, such an attention to the ‘sayings’ of routine participants brought forward instances of breakdowns (deriving from narrated critical incidents); moments in organizational life in which participants became reflective inquires in their attempt to explain how and why things were done in one way rather than another; and this, it is argued in the thesis, is a novel methodological contribution.
3. Another important contribution of this thesis is its empirical value in the sense that the focus on breakdowns in ongoing practical activity revealed the ways in which participants dealt with accidents, surprises and unusual organizational experiences. The ever-changing character of tacit knowing is manifested in disruptions of on-going activities and the task of the researcher is to identify these instances and bring them to the fore. This is what Salvato and Vassolo (2018) refer to as the meso-level of focus and analysis; not merely the micro/individual or

macro/organizational. There is something interesting and valuable in the notion of breakdowns as a way of forcing the familiar to become strange and that, in turn, to become again familiar. In these 'turning points', breakdowns can be seen as a useful research tool. In addition, the focus of the empirical work on two public UAE-based organizations represents a novel insight on organizational settings that are not considered as 'first choice' for researchers of routines or tacit knowing. This thesis is, therefore, the first one to use empirical data deriving from Middle-Eastern organizational settings.

4. The thesis also offers contributions to practitioners because the notion of breakdowns may be construed as vantage points whereby organizational participants' activities can be reflected upon, reviewed, analyzed, re-assessed, and perhaps stimulate change. If practitioners take seriously the fact that breakdown do happen in organizational contexts and they are prepared to reflect upon these moments, then novel opportunities could be created, and new ways of doings and sayings may be established. This is beneficial for organizations overall as breakdowns that have been reflected upon and intentionally put forward may create the space for the emergence of dynamic capabilities.

In the next section (7.2) I sketch out these contributions in more detail along with the limitations and implications of the research. Also, some directions for possible future research are considered in section 7.3.

7.2 THESIS CONTRIBUTIONS TO KNOWLEDGE

There are four main areas that this thesis is believed to have contributed to. These are classified as theoretical, methodological, empirical, and practical, and are presented in turn below.

7.2.1 Theoretical Contributions

- An important contribution of this thesis is the explicit link made between two literatures, namely, tacit knowing and organizational routines. In this research, it is argued that tacit knowing is a result of an unreflective, non-deliberate, invisible integration between a set of subsidiary particulars towards something they signify, that is, the meaning. Organizational routines are a result of interlinked habits characterized by sequential patterns of action based on the tacit understandings of routine participants. Routines, moreover, comprise of two aspects, namely the ostensive which consists of the abstract, collective, and generalized understandings of what the routine is or should be (for example what is or should be rebranding or customer services, or auditing) and the performative which consists of the actual performances of individuals when enacting routines (performing *rebranding*, *customer servicing*, and *auditing* in particular ways). Although the literature has acknowledged a close connection between tacit

knowing and routines, this has not been explored in any kind of detail. For example, Parmigiani and Howard-Grenville (2011) argued that routines necessarily embody tacit knowing because, by their very nature, they comprise of interdependent patterns of actors' performances. Since action is at the heart of tacit knowing, it follows that the role of tacit knowing in organizational routines should be further explored. Thus, the current thesis extends the literature on routines and tacit knowing by making more explicit the way each one affects the other. In summary, if all knowing is manifested in actions, a person engaging in organizational routines integrates and re-integrates subsidiary particulars to focal targets with an intention, that is, *for the purpose of* achieving an outcome. Hence, performing customer services (the performative aspect of the routine) whereby an individual integrates subsidiary particulars (servicing customers in a timely and effective manner, reducing waiting times) is taking place for the purpose of servicing the customer in an effective (and efficient) way. This particular routine may be viewed and perceived differently depending on the context in which the routine takes place.

- This leads to another contribution that this thesis is believed to have achieved. One of the central questions in the literature on routines is how routines change (Feldman 2003; Pentland et al 2012). Although the literature has provided a number of reasons that change in routines can be explained, the current study extends this literature by offering an explanation not only on how routines change but also *why* they do. I have argued that the triggering mechanism that allows for the change to take place is the experiencing of breakdowns in the structure and process of tacit knowing. Recently, Farjoun et al (2015: 10) acknowledged that in

order to understand (institutional) change, “one needs to appreciate the role of breakdowns in individual learning and creativity”. Since routines are the prime vehicle of organizational learning, any disturbance in the ways that organizational practitioners integrate subsidiary particulars can have an effect (major or minor) in the way that a routine is enacted or even understood in a specific context. When a breakdown occurs, the integration of subsidiary particulars and focal targets is no longer possible. In these moments, practitioners step back from their ongoing activity and become reflective in an attempt to find novel ways to move the activity forward and thus re-integrate subsidiary particulars and focal targets. This is then the mechanism that allows for routines to change. Therefore, although breakdowns are particularly useful phenomena when analyzing tacit knowing, they may be seen as non-desirable and they remain non-deliberate but still they are unavoidable and particularly important in bringing about change in organizational routines. Ambiguous happenings, conflicting interests, and tensions are all integral parts of organizational life and have the potential to turn our attention to the inherently creative nature of human action.

- A third contribution of that this thesis is believed to have achieved relates to an apparent focus on the ‘meso-level’ of organizational routines in which interpersonal relationships among routine participants becomes the focus of attention and analysis. In a recent paper, Salvato and Vassolo (2018) developed a multi-level theory of Dynamic Capabilities that connects the micro/individual and macro/organizational level with a meso-level of interpersonal connections among organizational employees which allows understanding of how individual-level

action aggregates into firm-level Dynamic Capabilities by means of interrelated actions supported by productive dialogue. The authors argue that individual actions are not so much a product of cognition, habit, and emotions in isolation as existing literature suggests, but the integration of the three. In a parallel but similar way, in this thesis it is argued that breakdowns in the performative aspect of routines affect an individual's integrations in three areas: (a) identities, roles and responsibilities, (b) relationships with others, and (c) the use of artifacts (objects or tools). When an individual's engagement in routines is interrupted by a breakdown in any of these three areas, the individual engages in (critical) reflection which, with the assistance of dialogue with other organizational participants, can provide space for novel and creative action. A crucial element in this model is the role of dialogue which needs to be sustained among employees for performances to be kept flexible and constantly adjusted in order to adapt to changing conditions.

- The thesis also confirms what Salvato and Vassolo (2018: 12), building on the work of Tsoukas (2009), referred to as 'relational engagement' (employees' cooperative behavior aimed at promoting change) *versus* 'calculative engagement' (employees confining themselves to minimally cooperative behaviors) in which the *quality* of dialogue between managers and employees is the 'glue' that links together individuals and teams, teams and the organization. A focus on this meso-level of organizational work with emphasis on the integrations of identities, roles and responsibilities, relationships with others, and the use of artifacts may be the mechanism through which the abilities of individuals to address change are transformed into a dynamic capability. Current conceptualizations of (dynamic)

capabilities portray them as firm-level entities premised on organizational routines (Helfat et al 2007; Helfat and Winter 2011). However, this macro-level view does not locate the source of creativity and innovation in them. For this reason, micro-level approaches have emerged (Felin et al 2015; Helfat and Peteraf 2015) which although highlight the role of individual employees, do not adequately explain how firms develop an ability to change that goes beyond the skills of some top managers. By taking into account a more integrative view of organizational life in which the micro-, meso- and macro-levels are synthesized can provide researchers and practitioners with a comprehensive account of how and why change emerges from routinized actions.

7.2.2 Methodological Contributions

- An area that this thesis is believed to have contributed to relates to the methodological challenge of identifying and analyzing tacit knowing in organizational contexts. Taking account of the works of Tsoukas (and his colleagues) on tacit knowledge, this thesis has argued that to research such knowledge in organizational contexts one needs to pay more attention to breakdowns, accidents, and dialogue (Baralou and Tsoukas 2015; Sandberg and Tsoukas 2011; Shotter and Tsoukas 2014; Tsoukas 2011, 2009) as these are foundational aspects for understanding and researching the tacit. This is because knowledge in organizations is ‘complex’ (Tsoukas 2005) and for this reason we need to ‘complexify’ (Tsoukas 2005: 6) our theoretical and methodological explorations if we want to come closer to the study of how practitioners know, think, and act. This involves non-conventional modes of inquiry capable of

encompassing not only the creative nature of human action, but also its fundamental embeddedness in social practices. Thus, this thesis has been built on the premises of a subjectivist ontology (realities are emerging in the routines and improvisations of people), an interpretivist epistemology (findings are creative in order to understand how social reality emerges), and a dialogic, inductive methodology with a focus on narratives, storytelling, ethnography and unstructured interviews. It is believed that such a comprehensive methodological approach put forward in this thesis has the potential to surface participants' tacit understandings and thus make them available for investigation and analysis.

- Particularly in relation to the methodological framework employed in this thesis, unstructured interviews (with emphasis on critical incidents), and archival company data were utilized with a view to understanding and probing the innerness of those who participate in organizational routines. Routines are, on occasions, disrupted and break down and it is in these moments that the researcher can get a 'grip' on how to theorize and approach tacit knowing. Such methodological framework is consistent with recent works on routine dynamics (Feldman et al 2016) which views actors as knowledgeable and often reflective when participating in routines. But how can this knowledgeability and reflection be investigated and understood in organizational contexts? The answer lies in the concept of 'dialogue' or 'talk' as the prime vehicle by which organizational members can discuss their 'lived experiences' as these derive from their engagement with organizational processes and routines. This presupposes that the researcher is actually present on site as an 'eyewitness' of organizational experience and attempts to understand how and

why people act in the way they do. Without disruptions or breakdowns in activity, participants remain absorbed performers and carry it out without the need to change or alter an action. If, however, organizational life is disrupted by a breakdown – and more often than not, it does – the researcher and the researched can become reflective inquirers and begin to discuss the reasons and causes of the disruption and the subsequent actions that led to alternative outcomes. This is particularly useful because organizations have rarely been seen as disruptive, controversial, and discontinuous but always flawless and largely unproblematic. The empirical work in this thesis has demonstrated that knowledge is always found resting upon a thin line of balance and imbalance, continuity and discontinuity, availability and unavailability and it can only be studied as a process that is constantly in motion whereby surprises, controversies, accidents, and errors are part of its very existence.

- A salient contribution of this thesis has been the focus on breakdowns as a methodological tool affording a different angle in our inquiries into tacit knowing. Besides their theoretical value which has been explored in Chapter *Three*, moments of breakdown can be conceived of as 'turning points' for individuals who participate in organizational events. This is because participants who experience breakdowns can become reflective and therefore provide the opportunity to deconstruct and reconstruct the meanings embedded in routines, relationships, responsibilities, roles, and so on. The use of breakdowns as a methodological tool has recently been acknowledged and employed by a number of organizational and management studies scholars (see, for example, Austin et al 2012; Cornelissen

2012; Garud et al 2011; Jordan 2010) as it affords obtaining different vantage points from where researchers can identify, research, and describe organizational experience. Additionally, the methodological framework developed in this thesis is grounded on a specific context and the experiences of breakdown remain unique for each individual participant in this study. However, the three areas of breakdown proposed here may be generalized and applied to different organizational contexts.

7.2.3 Empirical Contributions

- An important contribution of this thesis is the utilization of the critical incident technique as a method of interviewing participants who experience salient moments in their engagement in organizational life. In line with recent contributions in organizational literature (Cornelissen 2012; Jordan 2010; Leitch et al 2010; Mantere et al 2012; Sandberg and Tsoukas, 2011) that acknowledge the utility and usefulness of the technique, a focus on critical incidents has the capacity to bring forward salient moments, thought processes, frames of reference and feelings about an incident (or a set of incidents) which participants ascribe particular meaning to (Chell 2004). The technique, building upon interview accounts provided by participants in the form of stories, conveys failures, achievements, and memorable episodes in one's organizational engagement. To this extent, interview accounts may facilitate social interaction as they protect collective understandings, raise the level of sense of shared identities, and become the repository of tacit knowledge. The task of the researcher is, therefore, to describe in detail how organizational members make sense of all those ambiguous or critical experiences in an attempt to get as close as possible to their tacit understandings. Additionally,

the technique can be used in investigations of organizational routines (it has not, yet, been utilized in that literature) whereby researchers can get closer to understanding how novel actions emerge and how and why routines may change (or not).

- Another area in which this thesis has contributed to is the particular organizational setting that it has been carried out. To-date, research in organization and management studies in general and organizational routines in particular derive their findings from organizational settings operating in developed countries (typically US- or Europe-based). This is one of the first studies to concentrate on a Middle-Eastern context and particularly the UAE which is considered one of the most advanced, economically developed, and politically stable countries in the middle of an unstable and troubled region. The particular research setting is also interesting for one further reason. The two sites (company '**M**' and company '**R**') are large public organizations with complex operations that serve different sectors within the wider Emirate community. Access to and research in such a 'prototypical' setting (Eisenhardt and Graebner 2007) provides a unique opportunity for a rare glimpse into the day-to-day activities of organizational life that would normally remain inaccessible to researchers.

7.2.4 Contributions to Practice

- This research has made a contribution towards practice with its emphasis upon the notion of breakdowns in organizational life. The notion of breakdowns is an invitation for reflection upon practitioners' lived experiences that they possess but not as yet attended to. Emphasis on critical incidents in organizational life may

stimulate a whole new range of possibilities to be explored, capabilities to be found, learning to take place, and a wide range of opportunities to be envisioned. Change in routines is possible and indeed desirable because when people face breakdowns they become reflective of what they do and may decide to do things differently. Through creative and productive dialogue people are given an opportunity to think, act, and feel creatively about performed tasks, thus envisioning opportunities to improve how the organization operates (Salvato and Vassolo 2018). Managers and firms can learn to recognize that breakdowns form a valuable and inseparable element of knowledge creation and must therefore develop contexts that facilitate dialogue and enhance a firm's capacity for change.

7.3 RESEARCH LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

No research is, of course, without limitations. The approach developed and implemented in this thesis should be viewed as a particular point of view and the findings presented should not be seen as complete or exhaustive. This is because the limitations acknowledged below can be presented as opportunities and directions for future research.

- The three areas of breakdown in the structure of tacit knowing, that is, the breakdown in the process of tacitly integrating subsidiary particulars and focal targets in relation to identities, roles, responsibilities, relationships and artifacts, have been identified in this thesis as salient features of explaining why routines change. However, the interaction and inter-relationship of these features has not been examined in any detail. Future research may build on the three areas of breakdown identified in this thesis and explore how these relate with one another and influence the ways in which routines are performed and understood in practice. Future research may explore in more detail how organizational structures and culture interact with one another and affect the ways in which routines emerge, stabilize, and/or change in light of salient endogenous and exogenous events (Parmigiani and Howard-Grenville 2011; Salvato and Rerup 2018).
- Although the thesis is built on evidence from two organizational settings, one still needs to be careful when attempting to generalize these findings. The focus of the present study has been on the retrospective accounts of critical organizational experiences (translated in terms of breakdowns) of a set of particular participants across two research settings. These accounts may be qualitatively different from those that other participants in other areas of the organization may provide

because of differences in their respective roles, responsibilities, experiences, and power. However, it is felt that the present findings can be used for 'naturalistic generalizations' (Cornelissen 2012: 134) whereby one recognizes similarities between the findings of this research and other 'cases', particularly if these are compared with evidence deriving from other government-based organizations based in UAE. An interesting avenue for future research may also examine how the present findings compare or contrast with evidence from private entities in the specific country or with other entities in Europe and the USA.

- The inquiry conducted in this thesis calls for a shift in the research focus from the micro/individual level and/or the macro/organizational level towards the everyday nature of managerial action or what Salvato and Vassolo (2018) refer to as the meso (or interpersonal) level of everyday interaction. This provides researchers with an opportunity to investigate social accomplishments that are fluid and changing and how their effectiveness varies across time and across firms. Additionally, more research in needed to understand the interactions of these three levels in an attempt to capture the process by which individual actions influence interpersonal relations which in turn generate change in routines and capabilities.

As a final thought in this thesis, I close with a quote from M. Polanyi (1969: 134) which I believe captures the process developed and presented in this thesis and will be likely to occupy much of my future intellectual explorations: "If an act of knowing affects our choice between alternative frameworks, or modifies the framework in which we dwell, it involves a change in our way of being" (Polanyi, 1969: 134).

7. REFERENCES

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